



July Mining News inside



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LNG faces possible surplus

Liquefied natural gas seems destined to move from famine to feast after 2010 in the Atlantic basin of North America.

There could even be an excess of liquefaction capacity, according to Dave Anderson, Anadarko Petroleum's manager for international commercial development.

Two rival LNG proponents have signed shipping contracts with Maritimes & Northeast Pipeline that could potentially bump the pipeline's capacity from the Canadian Maritimes by almost 1.56 billion cubic feet per day.

Anadarko Petroleum and Spain's Repsol announced agreements July 15 with Duke Energy-controlled Maritimes & Northeast to deliver 813 million and 750 million cubic feet per day respectively.

Anadarko's Bear Head terminal in Nova Scotia and Repsol's joint venture with Irving Oil to build Canaport in New Brunswick are both scheduled to come on stream in 2008.

Expansion not expected to match LNG projects

But it is not expected that Maritimes & Northeast will see **PIPELINE** page 15

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CANADA

Mackenzie hopes up

Canadian government ready to provide C\$500M to absorb pipeline impact

By GARY PARK

Petroleum News Canadian Correspondent

There is no chance that Mackenzie Delta gas will start moving to market this decade, but the odds of gas flowing by 2010 have dramatically improved.

In the space of a week, pacts with aboriginal regions and the Northwest Territories government broke deadlocks that had placed the C\$7 billion Mackenzie Gas Project at risk.

Meanwhile, regulators have signaled that public hearings could start by mid-November.

These breakthroughs have "started to put a firmer foundation" under the project and created



Deputy Prime Minister Anne McLellan

"cautious optimism that we can be fully back on track" three months after field-work was stopped, Imperial Oil spokesman Hart Searle told Petroleum News.

He said that in aggregate the "encouraging steps" that have been taken strengthen the commitment of the Mackenzie consortium.

But the delays to this point have scuttled the original ambitions to bring a pipeline into operation by 2009, Searle said.

Beyond that he would not offer predictions other than to say a "firmer and credible schedule" can be set once regulatory hearings get under way.

For now, Searle said there are major steps ahead

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FORT WORTH, TEXAS

XTO: Let's make a deal!

Bob Simpson charms Big Oil into lucrative deals, looking to invest \$1.25B in 2006

By RAY TYSON

Petroleum News Houston Correspondent

Acquisition-minded XTO Energy now admits the art of deal-making has been accomplished largely through chief executive Bob Simpson's experience and gut feeling. Still, analysts wonder how the Fort Worth, Texas-based independent continues to execute on the kind of large property transactions that have fueled XTO's rapid growth over the past few years.

Perhaps that's why Simpson and his team dedicated so much time during XTO's July 19 second-quarter 2005 conference call attempting to justify or



Bob Simpson, XTO Energy

rationalize the company's insatiable spending appetite. This year XTO expects to buy four major packages totaling \$1.3 billion. Within the past two months alone, the company closed on \$600 million worth of deals.

Simpson, whose multi-million dollar compensation package last year rivaled that of ExxonMobil chief executive Lee Raymond, uses the tried and proven good old boy approach to attract prospective sellers, like super-majors ExxonMobil, Chevron and ConocoPhillips.

"Mr. Simpson had personal meetings, whether it

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ALASKA

Back in the LNG game

Port authority talking to proposed terminal about 1 bcf/day with no Jones Act issues

By KRISTEN NELSON

Petroleum News Editor-in-Chief

After being left on the dance floor by Semptra, the Alaska Gasline Port Authority has found another partner for its proposed liquefied natural gas project, but can't yet say who that new partner is.

Jim Whitaker, chairman of the port authority board and mayor of the Fairbanks North Star Borough, said July 20 that there was a confidentiality agreement and he couldn't say much, but he could say that this proposed terminal wouldn't involve Jones Act issues — giving rise to speculation from Alaska Natural Gas Development Authority board members who



JIM WHITAKER

heard the presentation that the receiving terminal must be on foreign soil, since the Jones Act requirements apply to ships moving between U.S. ports.

The port authority proposal is for a pipeline to a liquefaction facility in Valdez, with LNG going to the West Coast.

Whitaker said the new agreement is with a receiving terminal that needs 1 billion cubic feet a day of LNG beginning in 2009, and since Alaska gas won't be available until 2012 a bridging agreement will be required with gas coming from elsewhere until then.

The deal hasn't been approved by the port

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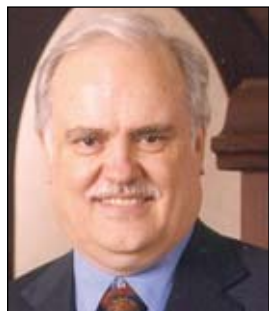
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ON THE COVER

Mackenzie hopes up

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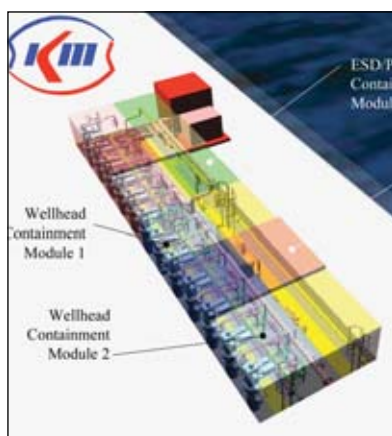
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Gulf of Mexico Activity Report

Current Deepwater Activity

Operator	Area/ Block	OCS Lease	Rig Name	Prospect Name	Water Depth (ft)
Anadarko Petroleum	LL 399	G23480	T.O. DEEPWATER MILLENNIUM	Cheyenne	9,045
BHP Billiton Petroleum (GOM)	WR 206	G16965	GSF C.R. LUIGS	Casade	8,160
Chevron U.S.A.	WR 758	G17015	T.O. DISCOVERER DEEP SEAS	Jack	6,959
BP Exploration & Production	GC 826	G09982	DIAMOND OCEAN CONFIDENCE	Mad Dog	6,736
Dominion E&P	MC 773	G19996	NABORS POOL 140	Devil's Tower	5,610
Kerr-McGee Oil & Gas	GC 768	G21817	DIAMOND OCEAN STAR	Deep Blue	5,257
Kerr-McGee Oil & Gas	GC 767	G24182	NOBLE AMOS RUNNER	Conquest	4,964
ConocoPhillips	GB 783	G11573	NABORS MODS 201	Magnolia	4,674
BP E&P	GC 782	G15610	PRIDE MAD DOG SPAR RIG	Mad Dog	4,426
BP E&P	GC 645	G11080	HOLSTEIN SPAR RIG	Holstein	4,344
Anadarko Petroleum	GC 652	G21810	ENSCO 7500	Genghis Khan	4,331
Anadarko Petroleum	GC 518	G21801	NOBLE PAUL ROMANO	K2 North	4,047
BP E&P	GC 821	G16806	T.O. MARIANAS	Puma	3,944
Eni Petroleum	GC 562	G11075	GSF CELTIC SEA	K2	3,934
Shell Offshore	MC 934	G07976	NOBLE JIM THOMPSON	Europa	3,863
Kerr-McGee Oil & Gas	EB 602	G14205	DIAMOND OCEAN VALIANT	Nansen	3,646
Union Oil Company of CA	GC 512	G26315	T.O. DISCOVERER SPIRIT	Knotty Head	3,557
Pioneer Natural Resources USA	GC 299	G15571	DIAMOND OCEAN AMERICA	Clipper	3,452
Shell Offshore	GC 434	G21207	T.O. DEEPWATER NAUTILUS	Pathfinder	3,448
Shell Offshore	GB 516	G11528	DIAMOND OCEAN VICTORY	Serrano	3,392
Murphy E&P	GC 338	G21790	NABORS MODS 200	Front Runner	3,330
Shell Offshore	VK 956	G08474	H&P 205	Ram-Powell	3,214
Shell Offshore	MC 158	G07995	H&P 202	Brutus	2,985
ATP Oil & Gas	MC 711	G14016	DIAMOND OCEAN VOYAGER	Gomez	2,972
Shell Offshore	MC 807	G07962	H&P 201	Mars	2,945
Walter Oil & Gas	MC 161	G21163	DIAMOND OCEAN QUEST		2,924
Shell Offshore	GB 426	G08241	AUGER	Auger	2,862
LLOG Exploration Offshore	GC 157	G24154	DIAMOND OCEAN SARATOGA	Citrine	2,614
Chevron U.S.A.	GC 205	G05909	NABORS 85 (MAYRONNE 162)	Genesis	2,590
BHP Billiton Petroleum (GOM)	GC 282	G26302	NOBLE MAX SMITH	Boris North(GC)	2,346
Chevron U.S.A.	GC 236	G15562	THERALD MARTIN	Typhoon	1,987
Chevron U.S.A.	VK 786	G12119	ENSCO 25	Petronius	1,754
Amerada Hess	GB 200	G17307	DIAMOND OCEAN CONCORD	Northwestern	1,736
Eni US Operating	EW 965	G12145	T.O. AMIRANTE	Morpeth	1,694
W & T Offshore	GC 178	G25123	NOBLE LORRIS BOUZIGARD	Baccarat	1,404
Shell Offshore	GC 65	G14668	H&P 206	Bullwinkle	1,353
LLOG Exploration Offshore	GB 205	G23278	THE 100	GB 205	1,330
BP E&P	VK 989	G09771	NABORS POOL 143	Pompano I	1,290

Total Deep Water Prospects with Drilling/WO Activity: 38

New Deepwater Activity

Operator	Area/ Block	OCS Lease	Rig Name	Prospect Name	Water Depth (ft)
Anadarko Petroleum	LL 399	G23480		Cheyenne	9,045
Kerr-McGee Oil & Gas	GC 767	G24182		Conquest	4,964
Kerr-McGee Oil & Gas	EB 602	G14205		Nansen	3,646
Shell Offshore	GC 434	G21207		Pathfinder	3,448
ATP Oil & Gas	MC 711	G14016		Gomez	2,972
Walter Oil & Ga	MC 161	G21163			2,924
Shell Offshore	GC 65	G14668		Bullwinkle	1,353

Baker Hughes North America rotary rig counts*

	July 15	July 8	Year Ago
US	1,404	1,394	1,211
Canada	493	367	241
Gulf	95	96	92

Highest/Lowest

US/Highest	4530	December 1981
US/Lowest	488	April 1999
Canada/Highest	558	January 2000
Canada/Lowest	29	April 1992

*Issued by Baker Hughes since 1944

The Gulf of Mexico Activity Report as of July 18, 2005.
Active drilling companies only listed.

TD = rigs equipped with top drive units WO = workover operations
CT = coiled tubing operation SCR = electric rig

This platform report was prepared by Tom Kearney



BP's Holstein Spar rig

COURTESY BP



Transocean's Deepwater Millennium

COURTESY TRANSOCEAN INC.

HOUSTON

Worldwide rig economics surge

GlobalSantaFe's June worldwide SCORE, or Summary of Current Offshore Rig Economics, leaped 9.2 percent from May, according to the offshore drilling contractor.

The SCORE compares the profitability of current mobile offshore drilling rig day rates to the profitability of day rates at the 1980-81 peak of the offshore drilling cycle. During that peak, when the SCORE averaged 100 percent, or points, new contract day rates equaled the sum of daily cash operating costs plus about \$700 per day per \$1 million invested.

Drilling economics in the North Sea posted the largest monthly gain on the SCORE in June, up 14.6 percent from May to total 86.3 points. The June SCORE for the North Sea also was up 98.8 percent compared to the same period last year.

West Africa also had a huge gain in June, up 14.1 percent from May to total 77.8 points. That country's June SCORE also was 55.5 percent ahead of the year-ago period.

The SCORE for the U.S. Gulf of Mexico in June registered a 4.4 percent increase from May to total 71 points. The Gulf was 75.5 percent ahead of the same monthly period last year.

Southeast Asia posted 61.2 points in June, a 1 percent increase from May and a 13.1 percent increase compared to the same period a year ago.

Meanwhile, the use of semi-submersible drilling rigs in June jumped 11.8 percent on the SCORE from May to total 82.6 points, and was ahead of the same period last year by an astounding 150 percent. Jack-up drilling rigs came in at 70.5 points, up 6.8 percent from May and up 24.6 percent compared to the same period last year.

—RAY TYSON

The SCORE compares the profitability of current mobile offshore drilling rig day rates to the profitability of day rates at the 1980-81 peak of the offshore drilling cycle. During that peak, when the SCORE averaged 100 percent, or points, new contract day rates equaled the sum of daily cash operating costs plus about \$700 per day per \$1 million invested.

• CANADA

Oil sands pump Canada's oil prospects

By 2015, Canada could be among top five oil producers, with 50 percent of output from increased oil sands development

By GARY PARK

Petroleum News Canadian Correspondent

The staggering pace of oil sands development should boost Canadian oil production by 50 percent over the next decade to 3.86 million barrels per day, the Canadian Association of Petroleum Producers has forecast.

That output target is 300,000 bpd higher than last year's prediction, reflecting an across-the-board surge in oil sands development.

"Canadian oil producers are increasing production to meet rising global demand," said Greg Stringham, the association's vice president, markets and fiscal policy.

If the goal is reached, Canada could join the leading five oil producing nations.

In updating its numbers, CAPP made a fresh evaluation of oil sand ventures and found that many of them are moving ahead faster than originally anticipated.

As a result, the association set a 2015 target of 1.39 million bpd for bitumen and 1.3 million bpd for synthetic crude, compared with last year's combined volumes of 994,000 bpd.

Of the other categories, light and medium crude production from the four Western Canadian provinces and Northwest Territories is expected to continue its steady slide from 593,000 bpd in 2004 to 382,000 bpd by 2015, although that decline could be slowed by improved recovery techniques.

The Northwest Territories sole producing field at Norman Wells is targeted for a drop to 14,000 bpd from last year's 21,000 bpd, although a return to oil exploration in the Central Mackenzie Valley, spurred on by a Northrock Resources find earlier this year, could change that outlook.

Conventional heavy crude in Alberta



Greg Stringham, Canadian Association of Petroleum Producers

In updating its numbers, CAPP made a fresh evaluation of oil sand ventures and found that many of them are moving ahead faster than originally anticipated.

and Saskatchewan is forecast to follow a similar trend to 344,000 bpd from 497,000 bpd last year.

The East Coast offshore is on track to double output over the decade to 290,000 bpd as the Hibernia and Terra Nova projects step up production and White Rose comes on stream.

Oil sands volume concerns

But there are concerns, dominated by the challenge of meeting pipeline needs that could affect production levels.

David MacInnis, president of the Canadian Energy Pipeline Association, said the prospect of an additional 1.7 million bpd from the oil sands region is good news for his sector, provided three key issues can be handled.

He said the industry must avoid the regulatory delays that have affected the Mackenzie Gas Project.

In addition, a rise in the cost of materials and a shortage of construction labor could undercut hopes of achieving the production goals.

CAPP also presented a "constrained" case that could lower its overall 2015 target to 3.59 million bpd, 270,000 bpd under its "moderate" case, all of that shortfall covered by a decrease in oil sands output.

The inhibiting factor will be the availability of lighter commodities such as condensate, pentanes and synthetic crude to blend heavy oil and bitumen into "syn-bit" to permit the blend to flow more easily through pipelines.

CAPP also cautions that although syn-bit is similar to medium sour crudes that are used in U.S. refineries, it could take "several years" for syn-bit to find acceptance in the marketplace and realize medium sour prices.

If syn-bit prices remain more closely linked to heavy crude, the blend will become less economical when the gap widens between light and heavy oil. ●



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• THE HAGUE, NETHERLANDS

Shell gets black eye with Sakhalin project as overruns double earlier estimates

Begins new era as single company, but questions persist on its ability to stimulate future growth

By ALLEN BAKER

Petroleum News Contributing Writer

After more than a century with a split corporate structure, the new Royal Dutch Shell PLC began trading as one company July 20. But whether it heralds a shining new era for the huge entity is still in doubt.

Just on the eve of the change, Shell had to admit July 14 that developing its biggest project, the Sakhalin 2 venture, will cost \$20 billion — double the company's earlier estimate. And the company said first deliveries of LNG would be delayed by at least six months, into the summer of 2008.

That announcement came just days after Shell struck a deal with Russia's Gazprom to trade a 25 percent stake in Sakhalin 2 (Shell keeps 30 percent and the operator's role) for half of one of the world's biggest gas deposits — the Zapolyarnoye-Neocomian field in Siberia. It looked like Shell had a new partner with plentiful opportunities, and indeed a rumor soon surfaced that the pair would make a bid for another Russian oil company. But Gazprom may be getting a bit less enthusiastic.

"The need to increase capital spending and the delay in the first LNG shipment from the Sakhalin 2 project will certainly lead to a downward revision of Shell's assets value (in Sakhalin 2)," said a statement from Alexander Medvedev of Gazprom.

The agreement with Gazprom included provisions for adjustment based on later evaluations of the two interests. Most analysts figured originally that Gazprom would have to sweeten the pot for Shell, but now it looks like Gazprom will be getting the sweetener.

Merger-friendly structure?

Shell's new status as a single company could make mergers easier, since Shell shares can now be used in a deal. But Shell management has lost face on several occasions in recent months, and those shares might not be as readily accepted by potential suitors now.

Ownership of the far-flung company was formerly split 60-40 between Royal Dutch Petroleum, based in The Hague, Netherlands, and Shell Transport and Trading Co., with headquarters in London.

But last year's reserves scandal, in which the company had to adjust its estimates several times, led to the decision to scrap that form and set up a single company. Two classes of Royal Dutch Shell PLC are now trading, but each share represents an equal slice of the company.

The new entity has a market capitalization of \$220 billion, putting it among the world's largest. Shell is now incorporated in London with a single board and management in The Hague.

The move impressed Moody's Investors Service as a way to improve governance and avoid future pratfalls.

"The unified shareholder structure and a single board, as well as the completion of Royal Dutch Shell's review of virtually all of its reserves ... have addressed many of the governance and upstream control issues," Moody's said July 20. It assigned Shell a high credit rating of Aa1, but said its outlook was negative.

"While the increased costs of Sakhalin 2 have not impaired the long-term viability of the project," the credit agency said, "delays and overruns on Sakhalin 2 or the other major projects could have implications for Royal Dutch Shell's reserve replacement and production growth, which will be key to stabilizing its rating outlook."

Dismal reserve replacement

Shell's restatement of its reserves late in 2004 and early this year led to a reserve replacement ratio of around 50 percent for that year, far below the levels of its peers. And production hasn't been a bright spot either, with liquids flows down 8 percent in the first quarter, compared to a year earlier, and gas flows down 2 percent.

Company executives blamed the cost balloon at Sakhalin 2 on several factors, including rising metal prices, Russian inflation, and a weak U.S. currency. Concerns

about disturbing whale migrations led to changes in some pipeline routings that may have boosted costs.

"It is now clear Sakhalin II investment plans were significantly underestimated when they were approved in 2003," said Malcolm Brinded, head of exploration and production, in a conference call after the announcement.

Despite being well into the construction phase, the new estimates still aren't firm. According to Ivan Chernikovsky, a Shell spokesman in Moscow, the figures are "still at an early stage and subject to shareholder endorsement." He stressed that the project was a "work in progress." The new cost estimate covers the second phase of the project, including development and drilling activity, until 2014.

Credibility issues

Shell's chief executive, Jeroen van der Veer, admitted the Sakhalin-2 cost overrun was a blow to the company's recovering — but not recovered — credibility.

"I fully realize it has an impact on our reputation — certainly for this project, and then of course I'm concerned it will carry over to other things that we do," Van der Veer told the Financial Times after the announcement. Problems in Canadian oil sands development, in Africa, and elsewhere have led to some doubts among investors about Shell's ability to manage the big projects that are vital to reserve additions.

Sakhalin 2 still stands to be a success, despite the higher costs. The project, which includes Mitsui and Mitsubishi of Japan as well as Gazprom and Shell, already has long-term sales agreements for about four-fifths of the LNG capacity of the first two trains, which will pump out 9.6 million tons annually.

And there's enough capacity in the fields to expand that output even further. Ultimate resource recovery is estimated a more than 17 trillion cubic feet of natural gas and a billion barrels of oil. •

Material for this story was provided by The Associated Press.



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Crude futures slide as supply concerns ease

OPEC president sees price declines as 'positive start' to price stabilization; crude oil inventories down less than expected

THE ASSOCIATED PRESS

Crude oil prices dipped July 21 after the U.S. Department of Energy's weekly report on petroleum stocks eased concerns of supply disruptions from hurricanes in the Gulf of Mexico.

In Kuwait, OPEC's president expressed confidence that price declines over the past two days were "a positive start" to price stabilization. Still, analysts cautioned of a possible time lag, saying next week's U.S. data could reveal shortfalls caused by the storms.

Light sweet crude for September fell 62 cents by midday in Europe to trade at \$57.40 a barrel on the New York Mercantile Exchange. Heating oil dropped more than 1.5 cents to \$1.5815 a gallon, while unleaded gasoline was down over a penny, fetching \$1.663 a gallon.

On London's International Petroleum Exchange, September Brent futures slipped 74 cents to \$55.91 a barrel.

The U.S. midweek supply report showed a build in distillate fuels — which includes heating oil, diesel and jet fuel — while crude inventories declined less than expected, showing that hurricane Dennis caused little damage to out-

put in the Gulf of Mexico.

Inventories of crude oil slipped by 900,000 barrels to 320.1 million barrels, or 7 percent above year-ago levels, the agency said. Analysts said traders were expecting a decline of at least twice that much. Distillates grew by 2.3 million barrels to 122.7 million barrels, or 5 percent above year-ago levels.

"It really was a bearish surprise to the market," said Phil Flynn, an analyst at Alaron Trading Corp. in Chicago.

Flynn said that while the damage to oil production from Hurricane Emily appears to be temporary, the market will remain on edge until a clearer picture develops — and any time a big storm moves through the Gulf of Mexico. While he believes oil prices could theoretically head down toward \$50 a barrel this summer, assuming no major supply snags, he maintains that traders will become jittery as the winter heating season approaches.

Dennis has forced shutdowns

Dennis had forced several oil fields and rigs to close down when it struck in early July. Its successor, the now-weakening hurricane Emily, missed the United States the

week of July 18 but caused precautionary rig evacuations on the U.S. side of the Gulf of Mexico.

Oil workers began returning to rigs in the southern Gulf of Mexico, and Mexican state oil monopoly Petroleos Mexicanos had opened its three main loading ports on July 20, as hurricane Emily hurtled slowly inland.

Another storm, tropical depression 6, was brewing, but appeared to be heading north, and away from the Gulf.

"With Emily missing to the south, tropical depression No. 6 taking a northern track, concerns about hurricanes may ease for the moment," said David Knapp, an analyst with Energyintel.

Frederic Lasserre, head of commodities research at SG Securities in Paris, described the U.S. report as "fairly bearish," with a "minor draw on (crude) stocks, and quite a substantial build in distillates."

"Even the draw on gasoline is quite small," said Lasserre.

He cautioned, however, about the possibility of further storms and against totally discounting Emily's effects — including the disruptions caused by the rig closings — saying: "Maybe we can expect some of the impact that we were expecting this time to appear in next week's (U.S.) report." ●

NORTH SLOPE

Kuparuk production tops 2B barrel mark

ConocoPhillips said July 20 that the Kuparuk oil field on Alaska's North Slope produced its 2 billionth barrel of oil July 20. The ConocoPhillips-operated field is the nation's second largest producing oil field, and has been in operation since 1981.

The original recovery estimate for the field was only about 2 billion barrels, and ConocoPhillips said the increase in recovery comes from "improved oil recovery methods and development of innovative technology that finds and extracts more oil from the field."

The Greater Kuparuk Area also has production from Tarn, Tabasco, West Sak and Meltwater. Total production is some 185,000 barrels per day, of which some 140,000 bpd is from the Kuparuk reservoir.

The Alaska Division of Oil and Gas estimated in its 2004 annual report that Kuparuk and its satellites had remaining reserves of 1.617 billion barrels which the division said was based on an "aggressive heavy oil component." The division's estimate included 960 million barrels from the Kuparuk reservoir, 530 million barrels from heavy oil at West Sak and 126 million barrels combined from satellites Tabasco, Tarn and Meltwater.

ConocoPhillips Alaska has a 55 percent share of the Greater Kuparuk Area. BP Exploration owns 39 percent; Unocal and ExxonMobil have smaller shares.

ConocoPhillips said that since 1981 the Greater Kuparuk Area has paid nearly \$1 billion in property taxes to local and state government and an additional \$7 billion in royalty and severance taxes to the unrestricted general fund of the State of Alaska.

Kuparuk owners have invested about \$7 billion in capital to develop the field.

—PETROLEUM NEWS

NORTH AMERICA

North American rig count up by 136 to 1,897 in weekly Baker Hughes survey

The number of rotary rigs operating in the United States and Canada during the week ending July 15 totaled 1,897, an increase of 136 rigs from the previous week and an increase of 445 from the same period last year, according to rig monitor Baker Hughes. The rig count in Canada alone stood at 493, up by a whopping 126 rigs compared to the previous week and up by 252 rigs vs. the year ago period.

The number of rigs operating in the United States during the recent week increased by 10 compared to the prior week to 1,404 and was up by 193 rigs compared to a year earlier. Compared to the previous week alone, land rigs increased by 13 to 1,281 rigs, while inland water rigs decreased by one to 25 rigs and offshore rigs decreased by two to 98.

Of the total number of rigs operating in the United States during the recent week, 1,234 rigs were drilling for natural gas and 168 for oil, while two were being used for miscellaneous purposes. Of the total, 877 were vertical wells, 344 directional wells and 183 horizontal wells.

Among the leading U.S. producing states during the recent week, New Mexico picked up seven rigs for a total of 90. Oklahoma's rig count increased by three to 151, while Alaska's increased by one to 10. California's rig count decreased by one to 23, while Colorado's slipped by one to 68 rigs and Louisiana's decreased by one to 194 rigs. Wyoming lost three rigs for a total of 77 rigs. Texas' rig count was unchanged with 619 rigs.

—RAY TYSON

• CANADA

Enbridge, Terasen roll with oil sands plans

Canadian pipeline companies lay out competing plans for lines to take oil sands shipments to British Columbia coast

By GARY PARK

Petroleum News Canadian Correspondent

Enbridge and Terasen, Canada's second and third largest energy pipeline companies, are on the move with their competing plans to gear up for a surge in oil sands shipments from Alberta to the British Columbia coast.

In preparation for a possible regulatory filing, Enbridge has embarked on field studies for its planned C\$450 million Gateway system, while Terasen is seeking National Energy Board permission to take a small first step on its way to a possible major undertaking.

Gateway Pipeline President Art Meyer said Enbridge is moving beyond engineering and environmental assessments to field work and expanded external discussions as it tries to determine the best route for the 400,000 barrel per day pipeline.

The project would consist of a 30-inch crude line from Edmonton to a deepwater port at Prince Rupert or Kitimat on the northern British Columbia coast.

Majority could go to Asia

Depending on the outcome of a joint effort with PetroChina to secure 200,000 bpd for the 720-mile pipeline, 75 to 80 percent of the volumes could end up in Asia, with the balance being shipped to California.

Enbridge has also discussed with Gateway's potential users the possibility of importing 150,000 bpd of condensate to dilute crude from the oil sands region, allowing it to flow more easily.

Condensate is in such demand that it has been selling in Alberta this year for up to C\$50 per barrel. Canada's domestic production has climbed 8.9 percent since 2002, reaching 2.5 million bpd in 2004.

In addition to the projected C\$2.5 billion cost of the main pipeline, Gateway

Condensate is in such demand that it has been selling in Alberta this year for up to C\$50 per barrel. Canada's domestic production has climbed 8.9 percent since 2002, reaching 2.5 million bpd in 2004.

requires a marine tanker terminal and related facilities along the route.

Provided the pieces come together, Enbridge hopes to submit an application to the National Energy Board in 2006 to start construction in 2008 and shipments in 2010.

Terasen plans to boost capacity

Meanwhile, Terasen, backed by its existing shippers and the Canadian Association of Petroleum Producers, has filed with the NEB to boost capacity of its Trans Mountain pipeline system to 260,000 bpd from 225,000 bpd.

It hopes to introduce the new capacity in the first quarter of 2007 at a cost of C\$210 million.

New pumps stations would be installed along the system, laying the groundwork for a C\$356 million "anchor loop" as part of a larger expansion costing up to C\$2.8 billion that could see Trans Mountain twinned or, if markets open up in Asia, a new pipeline built to the Prince Rupert-Kitimat area.

"West Coast and offshore markets are increasingly important to producers as Canada's oil sands develops and production grows," said Terasen President Rich Ballantyne.

"Our expansion plans contemplate staged growth in export pipeline capacity to meet corresponding growth in oil sands production."

Terasen already operates a 2,700-mile pipeline network that carries 680,000 bpd of petroleum products to markets in western North America. ●

• LOS ANGELES

Unocal board backs higher Chevron bid

Chevron boosts cash/stock package to \$17 billion, while Chinese firm CNOOC sticks with its \$18.5 billion cash offer

By GARY GENTILE

Associated Press Business Writer

China's CNOOC Ltd. stuck by its original bid for Unocal Corp. July 20, even as Unocal's board endorsed a sweetened offer from rival bidder Chevron Corp.

"We regret that they have not yet embraced our offer," CNOOC Ltd. said in a prepared statement. "We will continue to monitor the situation actively."

Chevron raised its cash and stock offer by about \$2.50 per share to \$63 per share — or \$17 billion overall — shortly before the Unocal board met the evening of July 19.

The new offer is about 40 percent cash and 60 percent stock. Chevron would issue about 168 million shares of stock and pay \$7.5 billion in cash if the transaction goes through.

CNOOC, which is 70 percent owned by the state corporation China National Offshore Oil Corp., has an offer of \$67 a share or \$18.5 billion on the table for the El Segundo-based Unocal. Its board reportedly had authorized an increase to \$69 a share.

The deal has met stiff opposition in Congress, where members have said they are concerned because of CNOOC's majority ownership by the Chinese government.

Analyst: CNOOC would have to add financial guarantee

Analysts said CNOOC would likely have to increase its offer and add a substantial financial guarantee if it wants to persuade Unocal shareholders to reject the Chevron bid in a vote scheduled for Aug. 10.

"It is too late for them to pull out," said Fadel Gheit, an analyst with Oppenheimer who covers Unocal. "You are not dealing with a bunch of investors. You are dealing with the pride of the Chinese Communist Party," he said.

Gheit believes CNOOC would have to raise its bid to around \$70 a share and offer a guarantee to Unocal shareholders, who stand to take a hit if they reject the Chevron bid only to see the CNOOC bid scuttled by federal regulators.

The guarantee would have to be around \$7 a share, or as much as \$3 billion, Gheit said.

Other analysts said the Chevron bid is superior and should prevail despite its lower value because it carries fewer "closing risks" and is backed by the Unocal board.

"While it is difficult to determine CNOOC's ultimate response, it appears clear the Unocal board favors Chevron over CNOOC and the narrowing of the two bids makes it more compelling for investors to approve the transaction Aug. 10," analyst Bruce Lanni of A.G. Edwards wrote in a July 20 note to clients.

Merrill Lynch analyst John P. Herrlin called the Chevron bid superior in part because its stock component is more tax efficient for Unocal shareholders.

Political support for Chevron

U.S. Sen. Diane Feinstein said she supports the latest tentative deal between Unocal and Chevron, based in San Ramon.

"While this is a complicated business deal, I think the Unocal board made the right decision based on the times and the

Lawmakers also have complained that CNOOC's bid for Unocal is part of a broader strategy by China to hoard energy supplies before they run out. Another concern is that the United States might unintentionally hand over technology or assets that have military value.

complications of the financing," she said in a statement.

Consideration of the Chinese deal by federal regulators could take six months or more and is highly uncertain given the political opposition to the proposed deal. Chevron, by contrast, has already secured regulatory approvals and has said it could close the transaction within days of the Aug. 10 vote.

Some members of Congress insist the deal would hurt national security and

result in vital energy resources being redirected to China. CNOOC has tried to defuse political opposition to its bid by asking the Committee on Foreign Investment in the United States to review its offer.

The group, led by Treasury Secretary John Snow, was created to monitor foreign investment activity in the United States with an eye on protecting national security.

China accused of hoarding

Lawmakers also have complained that CNOOC's bid for Unocal is part of a broader strategy by China to hoard energy supplies before they run out. Another concern is that the United States might unintentionally hand over technology or assets that have military value.

The House registered its discomfort in June by approving a resolution that asks the president for an immediate and thor-

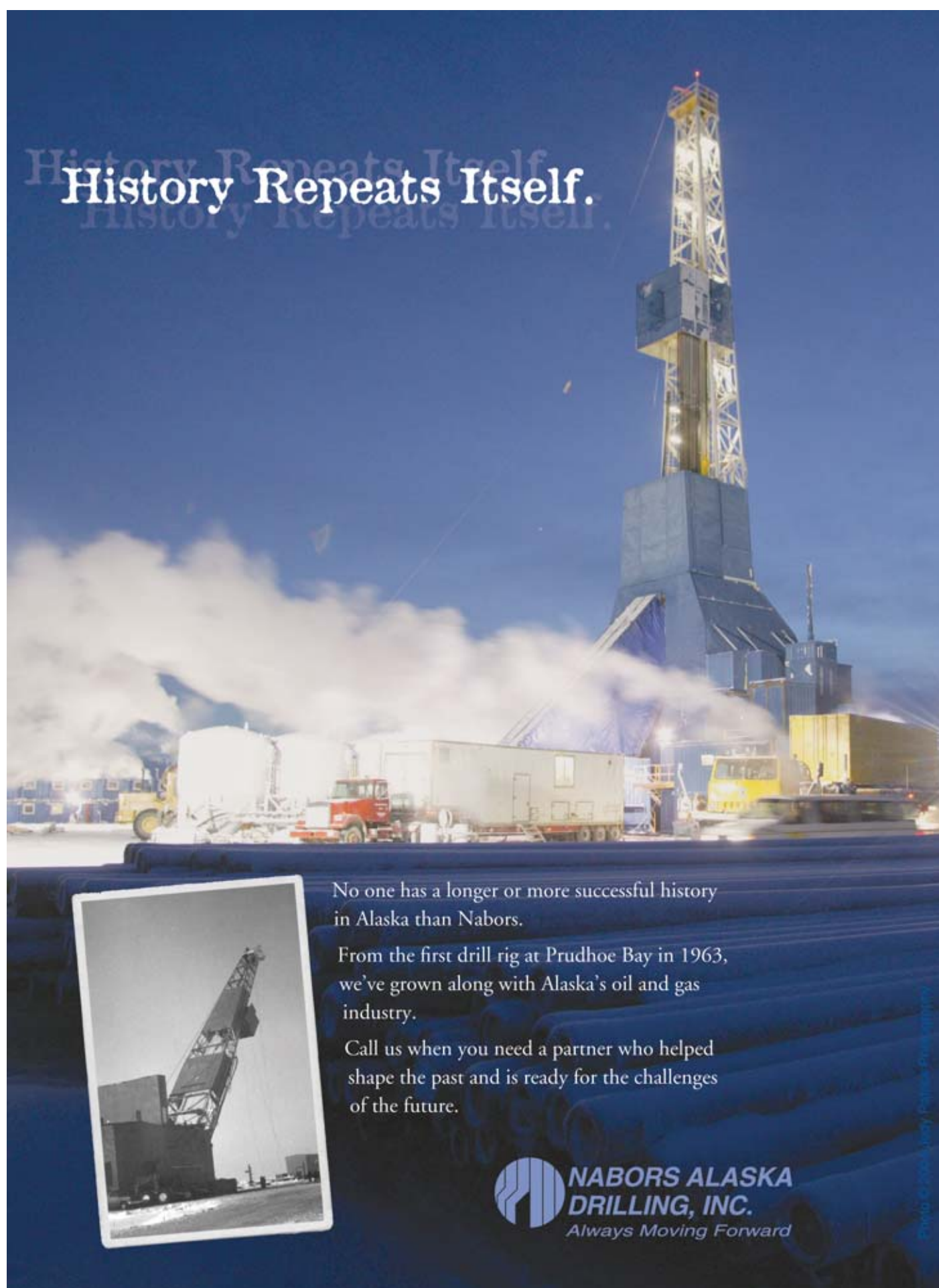
ough review if Unocal accepts CNOOC's offer.

Nine senators sent a letter July 19 to President Bush urging a full investigation into CNOOC's proposed acquisition of Unocal.

Chevron, based in San Ramon, Calif., pumps about 1.6 million barrels of oil and 3.8 billion cubic feet of gas daily. Unocal, which is similar in size to CNOOC, produces 170,000 barrels of oil and 1.6 billion cubic feet of gas each day.

Unocal is attractive to CNOOC because of its extensive reserves in Asia. Chevron also has significant presence in that region.

"Our increased offer has been driven by competitive circumstances, but even at this higher price it remains a compelling transaction for Chevron stockholders and is accretive to both cash flow and earnings per share in 2006," said Chevron Chairman and Chief Executive David J. O'Reilly in a prepared statement. ●



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• NORTH SLOPE

NSB agrees to rezoning for Nikaitchuq

Borough investigated potential impacts on environment and on subsistence hunting; arctic ciscoe main concern

By ALAN BAILEY

Petroleum News Staff Writer

At its June assembly meeting the North Slope Borough approved the rezoning of the area around the Nikaitchuq unit, Gordon Brower special assistant to the Land Management Division of the North Slope Borough Planning Department, told Petroleum News. The rezoning presents a major milestone in the development of Nikaitchuq by Kerr-McGee and its partner Armstrong Alaska. Nikaitchuq lies in the shallow waters of the Beaufort Sea, offshore the Kuparuk River and Milne Point production units on Alaska's North Slope.

Kerr-McGee has said that the Nikaitchuq No. 1 well tested at rates of more than 960 barrels per day of 38 degree API oil from the Sag River formation. The company has also said that it has tested the Schrader Bluff reservoir at Nikaitchuq No. 4 at rates up to 1,200 bpd, with the oil testing at 16 to 17 degrees API.

Kerr-McGee and Armstrong plan to build a production pad at Oliktok Point and up to three offshore gravel islands inside the barrier islands in the vicinity of Spy Island, in water depths of eight feet or less. They would drill up to "50 wells at each offshore location and about 20 wells at the onshore location for producing oil and gas."



Gordon Brower special assistant to the Land Management Division of the North Slope Borough Planning Department

Conservation district

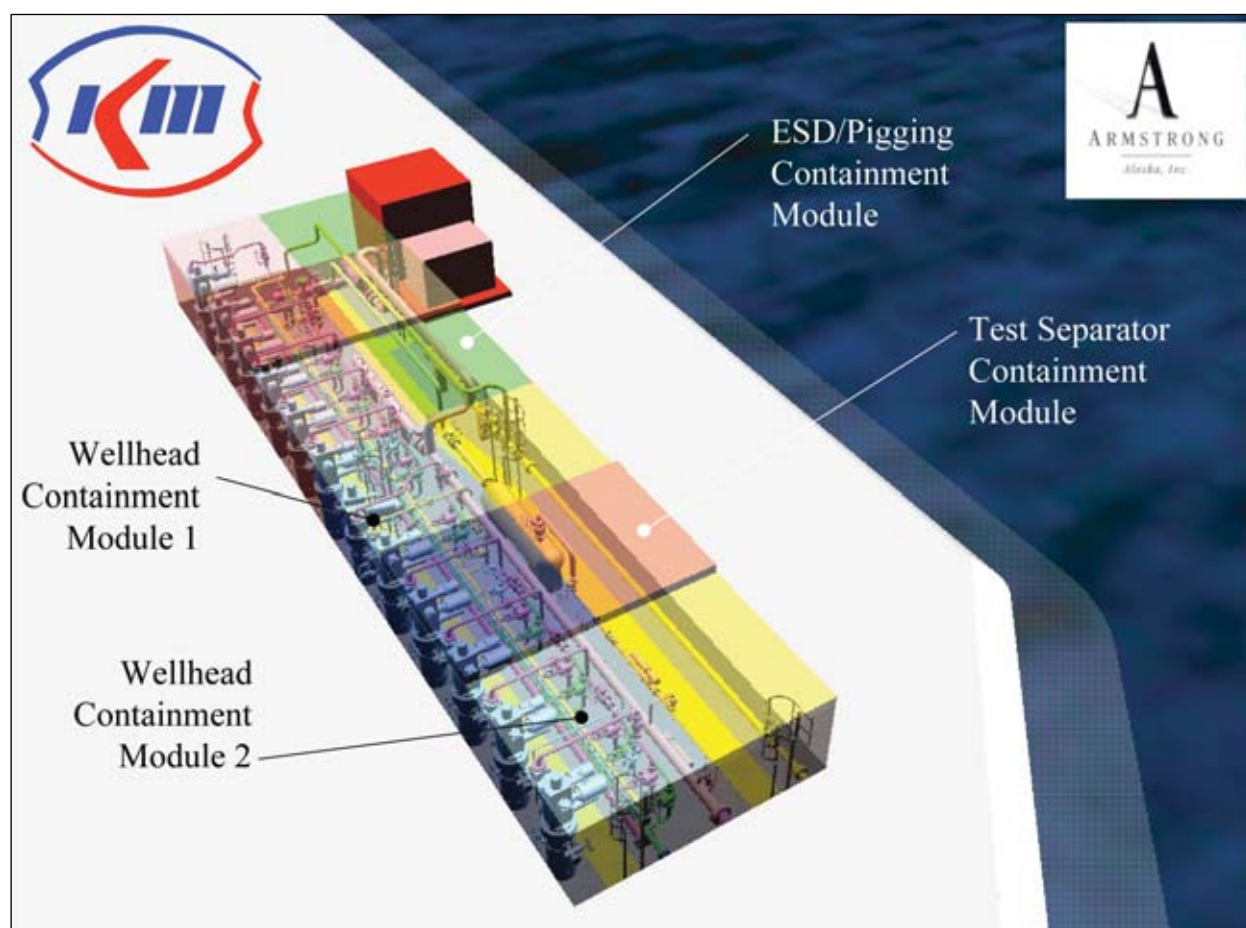
But the project area south of Spy Island and north of Oliktok Point lies within a region that the North Slope Borough had zoned as a conservation district — an area intended for nature conservation. As a result Kerr-McGee submitted an application to the borough to have the area rezoned for resource development. We received the application in March and the borough's planning commission heard the application in May, Brower said.

"By resolution, the Planning Commission, after a public hearing forwarded it on to the North Slope Borough Assembly for final approval," he said.

Assembly approval followed a further public hearing that included testimony both for and against the rezoning. And with the rezoning completed, the permitting process for the project can now move ahead.

Fairly low environmental impact

Brower said that the decision to agree to the rezoning partly emanated from the fact that the sea in the project



area is fairly sheltered. People did cite some environmental issues but we determined that there wouldn't be a large-scale impact "primarily because of our coastal management program atlas which shows this area to be relatively free of ice ridging," Brower said. Also some barrier islands shelter the project area and would take the brunt of a storm surge, he said.

The prime environmental concern turned out to be a potential impact on the arctic ciscoe that migrate through the shallow nearshore water from the Mackenzie River to the Colville River. Grounded ice forming around the oil structures might block the migration of these fish.

"The remedy was that the grounded ice for the project would be breached at several locations to accelerate thaw," Brower said.

Subsistence impacts

North Slope Borough residents are also concerned about the impact of oil and gas development on subsistence hunting.

"We do know the impact associated with development is mostly displacement (of subsistence hunting)," Brower said.

The Nikaitchuq project involves a conflict avoidance agreement with the Alaska Eskimo Whaling Commission, he said. The intent of this agreement is to ensure that the development doesn't interrupt bowhead whale migration, a critical factor in the Native way of life.

Bowhead whale migration is protected by the North

Slope Borough coastal management program and by municipal code, Brower said.

"They may have stop-work periods from the peak hunting until the quota's met by the village, so that whales will not be deflected off their normal migration path," he said.

Brower also pointed out that although industry has claimed that hunting can continue around the oil and gas developments, past experience has shown that disruption to hunting can occur. For example, security concerns can result in restricted access around oil installations.

"There have been problems with subsistence hunters being disarmed," Brower said.

And a good neighbor policy for recognizing and mitigating the displacement of subsistence use areas will apply to the Nikaitchuq project, as it has in the Alpine project, Brower said. The good neighbor policy recognizes areas that are used for subsistence harvesting or transportation.

"It creates a fund where impacts can be mitigated and if subsistence is not taking place in this area it provides a means of going elsewhere," Brower said.

Cumulative effects

Brower also emphasized the importance of looking at the overall cumulative effects of oil and gas development and not just considering individual projects.

"I think the state has neglected this far too much —

see NIKAITCHUQ page 9



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• CANADA

Time for a clear energy policy in Canada

Industry umbrella group puts pressure on Canadian governments to act in face of price-supply squeeze; wants coherent direction

By GARY PARK

Petroleum News Canadian Correspondent

A ghost from the past has resurfaced in Canada's energy circles, only this time the specter is taking on a friendly form, as a broad coalition of producers, shippers and service providers calls for a national strategy to deal with soaring prices, tight supplies, climate change, labor shortages and the need for investment to develop new energy sources.

The Energy Dialogue Group, made up of 18 industry-related associations, said Canada's federal government, 10 provinces and three territories need to start building a framework in conjunction with industry to tackle rapidly evolving conditions through a clear, coherent policy.

EDG chairman Michael Cleland said a clear sense of direction is vital if Canada is going to handle the pressures implicit in oil prices above US\$60 per barrel.

It is also essential for Canada to be equipped to discuss its energy directions with the United States.

But Cleland conceded that talk of a national policy immediately raises fears of a second National Energy Program, like the 1980 policy imposed without consultation by the Canadian government to curb galloping oil prices and promote exploration and development of frontier regions by Canadian-based companies.

The end result was that U.S.-based companies fled south of the 49th parallel, thousands in the industry lost their jobs and the Alberta economy, in particular, was sent into a nosedive.

Cleland gave an assurance that the EDG has no thoughts of reviving the National Energy Program by encouraging governments to take over from the free market.

Four major topics

In a 36-page document sent to Canada's Council of Energy Ministers, the EDG said an energy strategy should cover four major topics — energy efficiency, information and public understanding, technology and smart regulation — and incorporate:

- Policies that are articulated, rather than implicit, so that politicians, not regulators, set priorities over competing societal values.
- A realistic climate change policy that is part of a broader energy framework.
- Better interaction on energy with Canada's foreign partners.
- A better context for government programs on technology, efficiency and support for emerging energy sources.
- A more balanced approach to the public debate on energy, which the EDG believes is too focused on the environment and not enough on energy security and prosperity.
- A reaffirmation of a free market approach to encourage investment.

John Richels, president of Devon Energy and previously head of Devon Canada, made a case earlier in July for Canada and the United States to team up on a joint energy strategy that would enable the United States to improve its energy security while accelerating the development of the Alberta oil sands.

Paper will be presented in September

The EDG discussion paper will be presented to a meeting of energy ministers in New Brunswick Sept. 20.

Cleland is not deterred by the fact that previous attempts to initiate action at the political level have fallen flat, because he believes governments can no longer ignore the impact of commodity prices and the squeeze on supplies.

He said there have been advances in the area of fiscal policy and commitments have been made to streamline regulatory processes, but the infrastructure needed to develop energy resources is lagging behind

growth demand.

What Cleland hopes is that governments will be more open to a policy discussion with his coalition and stakeholders such as the Canadian Energy Efficiency Alliance, a group speaking for industrial energy users, and start to tackle the tough issues that stand in the way of developing a broad national consensus.

He argued that if energy had received the attention it deserved Canada could have avoided signing the Kyoto Protocol on climate change and would have been better prepared to make key decisions on gas pipelines from the North Slope and Mackenzie Delta. ●



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continued from page 8

NIKAITCHUQ

they have not done anything to make the industry recognize the cumulative effects that are going on," Brower said.

The borough expects to carry out studies into these cumulative effects in connection with the Nikaitchuq project — studying, for example, the impact of noise from construction sites and field operations.

"It calls for some acoustic monitoring in close relationship with our wildlife department in the North Slope Borough," Brower said. "We've been the leader in studying the bowhead whales."

New technology

The proposed use of new technology, including containment modules for the wellheads and a "pipe-in-pipe" design for pipelines, played a significant role in the borough's rezoning decision.

"It hasn't been done before in the Arctic, having wellheads completely sealed inside a tank and the subsea pipeline having a full containment system," Brower said.

This type of design puts to rest some fears about what would happen if a blowout occurs, especially since oil spill response tests in broken ice for Northstar did not work, he said.

"The long standing opposition to offshore development by the North Slope Borough still stands but we make use of best available technology to make a best informed decision," Brower said. "... If you want to come up here this is how you do it." ●



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• COOK INLET

Agrium fertilizer plant gets year reprieve

Details of new contracts confidential, but Agrium said in March it would pay more if suppliers took on some of the risk

By STEVE SUTHERLIN

Petroleum News Associate Editor

A new gas supply agreement between Agrium Inc. and unspecified Cook Inlet producers will buy Agrium another year to solve long-term gas supply problems at its Kenai, Alaska nitrogen fertilizer facility.

Agrium will continue to operate the plant until November 2006, after the successful conclusion of gas supply contract negotiations with the producers, the company said July 14 in a statement. (See story in July 17 issue of Petroleum News.)

The company had planned to shut the facility down Nov. 1 if it was unable to obtain economic new natural gas supply contracts.

Bill Popp, co-chairman of the governor's Agrium Task Force told Petroleum News July 20 that although Agrium and other involved parties have worked out a way for Agrium to survive an extra year, there is more work to be done to ensure adequate year-round deliverability of gas to the plant on a long-term basis. The new gas supply contract will buy time to address Cook Inlet gas deliverability issues such as gas storage, downhole maintenance and pipeline access, he said.

"Deliverability is the most pressing issue facing the gas industry today in Cook Inlet," he said, adding that shortcomings in the gas delivery system make Agrium's gas supply problem difficult to resolve beyond a one-year contract.

Popp said the deliverability problem is



Agrium's Kenai, Alaska, nitrogen fertilizer facility.

seasonal. At full winter demand the system demands 900 million cubic feet per day, but the system will only deliver 700 million cubic feet per day according to latest industry figures, he said.

No details on new agreements

Agrium declined to provide financial details of the new gas agreements, saying its commercial contracts with numerous Cook Inlet gas producers are subject to strict confidentiality provisions for all parties.

"They are extremely tight-lipped about who is supplying their gas and under what circumstances it's being supplied," Popp said.

In a March request for proposals, the company offered \$3 per thousand cubic feet

of gas to Cook Inlet producers, a significant jump over the historic \$2 per mcf average gas price paid for delivered supply to the Kenai plant. The higher offer was made possible by higher nitrogen prices.

Agrium told Petroleum News in March it would consider paying more than \$3 per mcf for gas if producers would share in the risk of fertilizer and gas market fluctuations with Agrium.

If a supplier was willing to enter into a shared-risk supply contract, it is possible the price Agrium pays for gas could rise above \$3 per mcf, the company said. Under a shared-risk arrangement, the price paid for gas delivered to the Kenai plant would fluctuate based on ammonia market price indicators and natural gas market indicators, as

specified in the contract, according to Agrium spokeswoman Lisa Parker. The result would be a higher average price, if ammonia prices escalate and stay high. Parker said the contract would set a floor price for gas as well, likely at a price below \$3.

Agrium has a shared-risk agreement in place at its Bahia Blanca, Argentina plant, according to Richard Downey of Agrium investor and media relations. Although the Bahia Blanca deal has an initial price of far less than \$3 per mcf, the mechanics would be similar for a Kenai deal, he said.

Looking forward

The Agrium Task Force has scheduled a meeting for July 27, to approve the final draft of a report of its recommendations to the governor, Popp said. The meeting will be held at 9:00 a.m. at the state Job Services Office in Kenai.

Assuming the final draft is approved, the task force will ask the state and the federal government to continue to follow through and offer support to Agrium and impacted contractor workforce, including preparation for transition into new jobs if the plant closes.

The draft includes a request that the State of Alaska immediately commission a study that evaluates the long-term economic effects and impacts on the Cook Inlet gas production, transmission and distribution system and the communities served by that system if some or all of the existing indus-

see **AGRIUM** page 12

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• WASHINGTON, D.C.

Alaska items still alive in energy bill

All but drilling on coastal plain expected to survive House-Senate negotiations; clean coal Healy loan included, AIDEA has other plans; longer Daylight Savings Time may hurt Alaskans

By ROSE RAGSDALE

Petroleum News Contributing Writer

Congress completed its first day of dickering over national energy legislation July 19 no closer to filling the \$8 billion gap in tax breaks proposed in versions of H.R. 6 approved by the House of Representatives and the U.S. Senate.

Negotiators from both chambers are racing against the clock to put a final energy package on President Bush's desk by a self-imposed deadline of Aug. 1.

Among the conflicts to be resolved is the cost of energy production tax breaks, which totaled \$8 billion in the House bill and \$16 billion in the Senate bill, and legal protection for oil refiners that manufactured a fuel additive suspected of being a carcinogen.

Alaska-related items managed to dodge all bullets July 19 and a provision authorizing the U.S. Department of Energy to make a market-rate loan of up to \$80 million to fund improvements to the Healy Clean Coal Power Plant won approval from the conference panel of 47 Republicans and 24 Democrats, according to an aide to Sen. Lisa Murkowski, R-Alaska.

Murkowski, a member of the conference committee, championed the slimmed-down version of the provision in the Senate, though it started out as a \$125 million proposal in the House bill. The reduction in the loan amount came as new engineering reviews cut estimates for equipment upgrades needed to get the plant operating.

The nearly \$300 million, state-owned clean-coal technology power plant near Healy, Alaska, has not operated since its testing period in the 1990s because of concern over the reliability of the plant.

While the energy conferees authorized DOE to make the loan, actual funding for the financing must come later in a separate appropriations bill, Murkowski spokesman Elliott Bundy said July 20.

AIDEA working on own plan

Ironically, the owner of the Healy Clean Coal Plant, the Alaska Industrial Development and Export Authority, views the loan provision as a holdover from the energy bill defeated in the last Congress with relatively minor importance in the plant's future, according to executive director Ron Miller.

"We think getting the plant operating will cost about \$20 million, and we have no intention of borrowing money from DOE," Miller said July 20. "We're working on a plan internally that involves getting an operator and getting the plant up and running."

Miller said AIDEA expects to unveil its plan in the near future. Still, the federal loan could serve to entice a potential buyer or operator for the plant, Miller conceded.



Sen. Lisa Murkowski, R-Alaska

'More time in the dark' for Alaska

The House and Senate conferees also approved with reservations on July 19 a plan to extend Daylight Savings Time in an effort to gain more energy efficiency. Studies in the 1970s showed the move could save the equivalent of 100,000 barrels a day, and energy use has increased substantially since then, which suggests even larger savings can be achieved, proponents say.

Murkowski is concerned the provision might plunge residents in different parts of the Alaska, especially areas in Southeast, into more darkness for a longer period each year, Bundy said.

"This is bad for Alaska," said Alaska resident Becky Gay. "It means we'll spend more time in the dark, and we don't need another hour of darkness out of the covers."

Murkowski is hoping a compromise can be crafted later in the conference when Sen. Jeff Bingaman, R-N.M., who opposes the measure, introduces an amendment to change it.

Meanwhile, energy bill conferees were set to resume negotiations July 21, taking up Indian Energy provisions and other items.

While oil and gas exploration on Alaska's Arctic coastal plain, a provision in the House bill, is expected to die in conference, Murkowski anticipates other Alaska-related items included in the Senate version will survive final negotiations, Bundy said. "So far, everything looks like it will go the way we expect it will," he added. ●

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GULF OF MEXICO



COURTESY BP

Listing Thunder Horse platform reported 'trim' and 'stable' as operator BP and others continue investigation into cause

Thunder Horse now 'trim' and 'stable'

The BP-operated Thunder Horse platform, found listing badly after Hurricane Dennis swept into the Gulf of Mexico in early July, is now "trim" and "stable," according to a final joint press released July 19 by the Thunder Horse owners and government regulators.

An investigation into the root cause of the mishap has yet to be completed. However, the U.S. Minerals Management Service has said Dennis likely was not the cause of damage to the Thunder Horse semi-submersible platform, largely because damage to other offshore facilities was "extremely light."

Workers, returning to the platform after an evacuation, found the platform listing 20 to 30 degrees to port. It appeared that two of the semi-submersible's four giant pontoons partly filled with water.

Precautions against future storms

BP and its lead contractor SMIT were successful in making the platform seaworthy and storm-safe as a precaution against changes in weather conditions from future tropical storms, according to the joint press release.

see THUNDER HORSE page 14

Agrium

Dear Alaskan,

I am very pleased to announce Agrium has been able to secure sufficient gas to allow for ongoing operations at our Kenai facility through October 2006. This accomplishment required the collaborative support of many individuals and organizations. I would like to acknowledge the support and efforts of Cook Inlet's gas producers, the Governor, Alaska's Congressional Delegation and the Kenai Peninsula's elected officials. I would also like to thank the community for its ongoing support.

Special thanks needs to go to our employees. Despite the uncertain and difficult issues they have faced, the team at Kenai Nitrogen Operations has continued to display exemplary performance with outstanding safety and operating results. This is a great credit to them individually and as a team.

Agrium remains committed to our operations in Alaska and the communities we serve. We recently renewed our commitment to the Boys and Girls Club and the Caring for the Kenai program.

We will continue to work with all parties to build on our recent success. Thank you.

Sincerely,

Bill Boycott
General Manager, Agrium Kenai Nitrogen Operations



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CANADA

Canadian land demand sets new record

It has taken only half a year to achieve what was once a milestone in the Canadian industry — surpassing the C\$1 billion mark for exploration land sold at government auctions.

To the mid-point of 2005, companies invested C\$1.08 billion in 4.9 million acres, beating the previous record set in 2001 by C\$123 million.

The total acquisitions were 4.92 million acres, down fractionally from 4.99 million acres to the end of June 2004. The average price per hectare (1 hectare equals 2.471 acres) set a new high of C\$539, an increase of 56 percent over last year and well above the previous record of \$446 set in 1980 during an oil price spike triggered by the Organization for Petroleum Exporting Countries.

On top of the auction sales, companies added another 1.86 million acres for C\$63.5 million in work commitments in the Northwest Territories and Saskatchewan.

Alberta, the dominant producing province, added C\$758 million (including C\$21 million for oil sands land) to provincial revenues, beating the 1997 record for the period of C\$671 million, although the quantity of land dropped 3 percent from last year to 3.46 million acres.

The hot spot was the Foothills region of the Canadian Rockies, where bidders paid an average C\$1,428 per hectare for 156,000 acres, close to triple the C\$501 per hectare they paid for 168,000 acres they acquired in 2004.

There was no let up in the first sale of the second half, with 468,000 acres changing hands for C\$96 million. Setting the standard was Saskatoon Assets, which forked over an average C\$10,787 per hectare for 1,265 acres in central Alberta's lively Pembina play, where a series of deep discoveries have been reported.

Pembina has attracted land buying totaling C\$104 million for 177,000 acres in the past 18 months.

British Columbia maintained a sizzling pace, collecting C\$252 million (the highest since the 2001 record of C\$293 million) for 683,000 acres (off 11 percent from last year), with the average price per hectare rocketing to C\$913 from \$385 a year earlier.

Saskatchewan fattened its coffers by C\$64 million, 73 percent ahead of the mid-point total in 2004, while the average per hectare price of C\$255 was the best in 21 years, with the total land quantity climbing to 162,000 acres from 105,000 acres last year.

—GARY PARK

• WASHINGTON, D.C.

BLM: Well permitting fees to reach \$4,000

Bureau of Land Management directed to recover more of its costs for document processing for oil and gas and minerals

PETROLEUM NEWS

The federal Bureau of Land Management has been told to recover more of its document processing costs. According to a proposal published in the July 19 Federal Register by the time the fees are fully implemented it will cost \$4,000 for an application for an oil and gas permit to drill, \$3,500 for a geothermal application to drill and \$2,500 for a geophysical exploration permit.

BLM said the new fees would be phased in over a period of up to five-years.

First year drilling permit fees (oil and gas and geothermal) would be \$1,600 and would increase \$500 a year until the full fee is in place. There is currently no fee for an application to drill. There is a \$25 fee for a geophysical exploration permit application in Alaska, but no fee for this permit elsewhere; that fee will be \$500 the first year.

BLM said it is proposing to charge on a case-by-case basis for applications to renew mineral materials competitive contracts.

Liquid minerals added to 2000 proposal

BLM published a cost-recovery proposal in December 2000 for solid minerals. The July 19 proposal supersedes the earlier one and adds fluid minerals to the types of documents that would be affected by the cost-recovery provisions. The agency said its re-proposal is a response to recommendations by the Interior Department's Office of the Inspector General, which said BLM needed to do more to recover its document-processing costs. Once the fees are fully implemented, BLM expects to recover some \$23.5 million more annually in mineral processing receipts than it receives under its present regulations.

BLM said it costs \$8,000 to \$10,000 to process an oil and gas geophysical exploration application, an estimate based on 2002 and 2003 data, but the agency said it "did not receive a significant number of geophysical exploration applications in the two-year period analyzed," and so will

continue to collect and analyze data on the cost of geophysical exploration applications. The proposed \$2,500 target fee is well below actual cost, "based on the time it takes to complete an environmental assessment and the fieldwork required." A new fee, based on further data gathering, will be proposed at the end of the phase-in period, the agency said in the Federal Register.

BLM studied four years worth of data on processing oil and gas applications for permits to drill, and found the average processing cost was \$4,000, the proposed fee. Because there is currently no fee, the fee will be phased in beginning at \$1,600 "to give companies adequate time to include these potentially significant new costs in their planning processes."

Alaska: 10-15 APDs a year

BLM Alaska State Office spokesman Ed Bovy told Petroleum News that BLM approves 10 to 15 applications for permits to drill each year and a couple of seismic survey applications a year.

The fixed fees are not appealable, but BLM said case-by-case fees will be appealable to the Interior Board of Land Appeals.

Case-by-case basis costs will be measured for: competitive lease applications for coal; royalty rate reduction applications for coal; logical mining unit applications; applications for lease modifications for coal; prospecting permit applications for non-energy leasable minerals; preference right lease applications for non-energy leasable minerals; competitive lease applications for non-energy leasable minerals; royalty rate reduction applications for non-energy leasable minerals; noncompetitive sale applications for mineral materials; competitive sale applications for mineral materials; competitive contract renewal applications for mineral materials; lease or sales applications when an environmental impact statement is required; mining plans of operations when an EIS is required; and mineral validity examinations/reports.

The Federal Register publication opened a 30-day public comment period that closes Aug. 18. ●

continued from page 10

AGRIUM

trial and utility users shut down.

In addition, the draft outlines recommended state action that could lead to greater oil and gas exploration in Cook Inlet, including active promotion and facilitation of mobilization of an offshore jack-up drilling rig to the basin.

Further recommendations are directed to help resolve problems of gas pipeline access in Cook Inlet. The task force report calls for new on-shore exploration as well.

"New oil and gas leasing and exploration should be allowed within previous undeveloped areas east of the existing Swanson River oil and gas fields within the Kenai National Wildlife Refuge," the report says. "This region remains largely unexplored

and may hold significant undiscovered natural gas reserves."

The report asks the federal and state governments to aggressively promote new oil and gas leasing and exploration in outer continental shelf waters of lower Cook Inlet.

Additionally, the report recommends government support for gas storage solutions in the area, and says the State of Alaska and the Federal government should promote and facilitate new onshore and offshore 3-D seismic surveys to spur new oil and natural gas exploration in the basin.

The task force will also address the need to bring additional industry to Cook Inlet, to increase demand for natural gas in the area. The task force has found that additional gas demand would create additional stimulus to build a spur line to bring North Slope gas to Cook Inlet area consumers. ●



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Business Spotlight

By PAULA EASLEY



FORREST CRANE

Peter Macksey, Customer Relations

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Peter Macksey is a 30-year journeyman ironworker with 30 years of construction experience — the last 13 with Steelfab. This summer he's hard at work on the Big Lake house and enjoys ferrying guests there on his and wife Pam's pontoon boat. Peter is active in the American Welding Society and the Community Schools board. Attending the birth of son Rylan was a defining moment for this happy dad.



FORREST CRANE

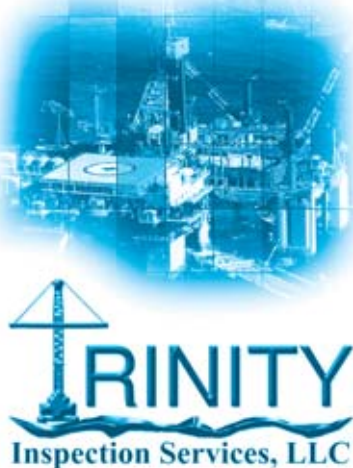
Janeece Higgins, General Manager

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Alaska-born Janeece Higgins worked on the trans-Alaska pipeline before joining Alaska Rubber 17 years ago. She's an avid rower who dreams of competing in the 2009 Australia World Masters Games; maybe then, she says, the competition will be old and feeble, giving her crew a chance to medal. Janeece and husband Charles have two hockey-loving sons, Joe and Ben. Spending time at Horseshoe Lake and riding Charles's Harley add to summer fun.

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Aurora: more inlet gas from west side

Company applies for pool rules for west side Three Mile Creek; will build 5-mile connecting line

By KRISTEN NELSON

Petroleum News Editor-in-Chief

Aurora Gas, operator of the Three Mile Creek unit, plans to develop the Beluga formation gas accumulation on the west side of Cook Inlet this year.

The company said in a pool rules application to the Alaska Oil and Gas Conservation Commission that while full field delineation has not occurred, it has begun discussing formation of a participating area with the Alaska Division of Oil and Gas and Cook Inlet Region Inc. — the Three Mile Creek unit is on state and CIRI leases some five miles west of the Beluga River unit.

The commission has tentatively scheduled a public hearing on the application Aug. 16, but said that if it receives no requests to hold the hearing it may consider the issuance of an order without a hearing.

Aurora drilled the Three Mile Creek Unit No. 1 discovery well, completed in January, to a bottomhole in section 34, township 13 north, range 11 west, Seward Meridian. The company said the well had a measured depth of 8,185 feet and a true vertical depth of 8,016 feet.

Aurora said the well tested gas at “potentially commercial rates from six distinct Beluga Formation sand intervals in two separate tests,” the last of which was finished in mid-June. Gas rates from individual Beluga intervals were low, the company said, which necessitates commingling production from several Beluga intervals where possible.

Aurora said the well tested gas at “potentially commercial rates from six distinct Beluga Formation sand intervals in two separate tests,” the last of which was finished in mid-June

Tight well spacing requested

The company said tight well spacing is expected to be required to maximize resource recovery from the complex and moderately low permeability reservoir in order to commercialize “a moderately low quality resource otherwise likely to not be recovered.” Tight well spacing would also, Aurora told the commission, lower “the economic threshold of field development, reducing the abandonment flow rates of wells, reducing operating expense” and allowing it to produce longer and recover more reserves.

Aurora requested well spacing of approximately 60 acres, and noted that Beluga River unit well spacing varies between 40 and 80 acres while Beluga formation wells at the Kenai unit have well spacing of 48-56 acres per well.

Aurora said it hopes to drill at least two delineation gas wells at the field this year, both also in section 34.

The company received pipeline permits in mid-June and plans to build a five-mile natural gas gathering line to connect with its Lone Creek gathering line to the south. It will also install a gas production facility at the Three Mile Creek unit No. 1 well site, which is designated at the field’s central pad.

First gas sales are expected as early as Aug. 1, with drilling operations for the delineation wells expected around Sept. 1.

Aurora has also received a permit for the Lone Creek No. 3 exploration well on CIRI fee land, targeting undefined gas in the Lone Creek field. The proposed well is a vertical hole in section 18, township 12 north, range 11 west, Seward Meridian. ●

continued from page 1

BACK

authority board, he said at a meeting of the ANGDA board July 20 in Anchorage. He said the port authority would be brief-

This agreement was reached July 15 “with another receiving facility” which could serve both the West Coast and the Midwest markets, Whitaker said.

ing Alaska Gov. Frank Murkowski about the new agreement July 22.

This agreement was reached July 15 “with another receiving facility” which could serve both the West Coast and the Midwest markets, Whitaker said. The 1 bcf a day requirement will grow to 2 bcf a day in 2012, he said, with opportunity for further expansion.

What the port authority wants from the state, Whitaker said, is an agreement for its royalty gas. The port authority believes royalty gas can be supplemented with gas from minor producers and provide enough to fill a 1 bcf a day contract, he said, eliminating the need for the port authority to reach a gas sales agreement with the producers.

Gulf Coast could take market

The port authority and Sempra negotiated separately with the producers over

gas, “with very little success,” Whitaker said. While the port authority’s formal relationship with Sempra ended some six weeks ago, the relationship remains cordial, he said, and Sempra has indicated that if Alaska LNG becomes available in the future it would be interested.

Whitaker said the port authority is concerned that Alaska’s North Slope gas producers — BP, ConocoPhillips and ExxonMobil — are, in effect, Alaska’s major competitors. All three companies are funding LNG receiving projects on the Gulf Coast and Alaska, he said, is on the verge of losing Midwest market opportunities to LNG coming in through the Gulf Coast, which already has a distribution system to reach Lower 48 markets, especially the Midwest.

The port authority — Valdez, the Fairbanks North Star Borough and the North Slope Borough — is negotiating with the administration under the Alaska Stranded Gas Development Act, but Whitaker said the administration has made it clear that its main focus is on negotiations with North Slope producers for fiscal terms for a gas pipeline through Canada to take gas to the Lower 48. ●

continued from page 11

THUNDER HORSE

“The platform is trim (and) displacement and freeboard are normal,” the press release said. “There have been no (oil) spills.”

The \$1 billion Thunder Horse production platform, not yet connected to sub-sea wells, is located on Mississippi Canyon Block 778 about 150 miles southeast of New Orleans, La. The platform was scheduled to come on line during this year’s third quarter, producing at peak rates of 250,000 barrels of oil per day and 200 million cubic feet of natural gas per day.

Nearly 50 contractors and sub-contractors provided assistance during recovery operations. Government regulators,

The platform is anchored in 6,050 feet of water and is designed to produce from some of the deepest wells in the world. Thunder Horse, at an estimated 1 billion barrels, also is the largest oil discovery in the U.S. Gulf.

including MMS and the U.S. Coast Guard, also are contributing to the effort.

The platform is anchored in 6,050 feet of water and is designed to produce from some of the deepest wells in the world. Thunder Horse, at an estimated 1 billion barrels, also is the largest oil discovery in the U.S. Gulf. The field and facilities are owned 75 percent by BP and 25 percent by ExxonMobil.

—RAY TYSON

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ALASKA



COURTESY BP

The Alaskan Frontier was back in service at the end of June after repairs were completed at Victoria Shipyards in Vancouver, British Columbia, and sea trials were completed.

BP fixing design flaw in new tankers

BP has identified and is repairing the design flaw which caused rudders to crack in its new double-hulled Alaska-trade tankers.

One of the ships, the Alaskan Frontier, has already been repaired; a second tanker, the Alaskan Explorer, is in for repair; and the two tankers still under construction have been inspected and had remedial work done, BP Exploration (Alaska) spokesman Daren Beaudou told Petroleum News in mid-July. The work involved correcting a manufacturing issue, he said.

The problem was identified during a combined U.S. Coast Guard critical area inspection and warranty inspection done on the Alaskan Frontier, which entered service Aug. 21, 2004. Inspectors discovered the problem May 15, during a 20-day inspection conducted in Port Angeles, Wash.

The newer tanker, the Alaskan Explorer, was immediately taken out of service May 15 for inspections and remedial work, Beaudou said in a July 14 e-mail.

Alaskan Frontier back in service

The Alaskan Frontier was back in service at the end of June after repairs were completed at Victoria Shipyards in Vancouver, British Columbia, and sea trials were completed, he said.

Representatives from BP Shipping, Alaska Tanker Co. (BP's shipping company), shipbuilder National Steel and Shipbuilding Co. and rudder manufacturer Becker Marine Systems worked together on the repairs.

"The trailing edge of the rudder was shortened to reduce tensional bending moments, additional stiffening was added at critical sections of the rudder structure and outer skin plating was renewed where cracks and weakening of the steel was apparent," Beaudou said.

While work continues to fully understand the failure, preliminary indications are that the failure was related to vibration induced fatigue.

The Alaskan Explorer entered Cascade Shipyard, Portland, July 5 for further inspections and remedial work; it had less damage, as it had been in service a shorter time. Beaudou said the Alaskan Explorer is expected to return to service in early August.

Since the flaws were discovered during inspections, there was never any risk to cargoes or vessels, he said, and other tonnage was available so BP's ability to move its crude wasn't affected.

—KRISTEN NELSON

continued from page 1

HOPES

in reaching land access and benefits agreements with aboriginal regions in the Northwest Territories and obtaining greater clarity relating to the regulatory hearings, including timelines.

Searle said initial discussions have taken place with the aboriginal communities on access and benefits and "we now need to provide a detailed agreement."

Canadian government antes up

What has given a sharp lift to the outlook for that aspect is a July 18 announcement that the Canadian government is ready to provide C\$500 million over the next 10 years to First Nations along the pipeline route.

Deputy Prime Minister Anne McLellan said July 18 all participants at the signing — the Northwest Territories government and the Gwich'in, Kahsho Got'ine, Inuvialuit, Tulita/Dene and Deh Cho first nations — agreed the deal "represents an important step in the collective effort to move the project forward."

The money will be placed in a stand-alone fund with the first nations overseeing the spending on items such as health care, education and policing.

In reaching that milestone decision, the federal and northern leaders removed demands on the Mackenzie partners that had climbed to hundreds of millions of dollars to pay for social and economic impacts stemming from the pipeline.

The consortium said in April that those costs were beyond its scope and responsibility.

Environmental review ready for hearing

Another advance was made July 18, when the joint review panel charged with conducting the environmental review said it had sufficient information to proceed to the public hearing phase, provided has received additional information by Sept. 30.

It said some deficiencies identified by interveners represent differences in the scope and content of the review and could be more appropriately handled in public hearings.

The panel turned down requests that it delay the start of hearings until certain agreements, mitigation strategies and

Deputy Prime Minister Anne McLellan said July 18 all participants at the signing — the Northwest Territories government and the Gwich'in, Kahsho Got'ine, Inuvialuit, Tulita/Dene and Deh Cho first nations — agreed the deal "represents an important step in the collective effort to move the project forward."

plans were fully detailed by Imperial Oil. So long as the additional information is supplied, the panel indicated it could issue 45 days notice that would allow hearings to start in mid-November.

That coincides with Imperial's own request July 15 to the National Energy Board, which runs separate hearings on technical and economic issues. Imperial told the federal regulator it needed another two months to settle the benefits and access agreements and the regulatory concerns.

Among those not convinced that the joint review panel is in a position to embark on hearings is Kevin O'Reilly, a Yellowknife environmentalist.

"I just don't think we're there yet," he told the Canadian Broadcasting Corporation. "Hearings can be a place where you can sort out different peoples' views about a project, but we don't even understand exactly what this project is, what its effects are and how they can be mitigated."

Out-of-court settlement reached

The July 18 announcements came a week after the Deh Cho and federal government reached an out-of-court settlement on two lawsuits that represented potential roadblocks to the pipeline plans.

Ottawa committed C\$31.5 million in funding — including C\$15 million for economic development — and promised to consult with the Deh Cho on future oil and gas exploration in their territory.

Another issue surfaced earlier in July when the Mackenzie Explorer Group filed a submission with the National Energy Board that described the pipeline's design as inadequate.

The group, that includes Devon Energy, Chevron Canada Resources, EnCana, Anadarko Canada, Petro-Canada, Apache Canada, BP Canada Energy and Burlington Resources Canada, said there is more gas in the Mackenzie Delta region than the proposed system can handle.

A study for the explorer group by Calgary-based engineering firm Sproule Associates concluded that there might be a need for 2.5 billion cubic feet per day of capacity, more than double the anticipated start-up volumes.

The companies are all outside the main Delta owners group of Imperial, ConocoPhillips Canada, Shell Canada and ExxonMobil Canada, who control about 5.8 trillion cubic feet of gas reserves.

Devon Canada Vice President Michel Scott said the group is not trying to block the project. Its primary purpose is to ensure there is flexibility to accommodate future gas discoveries in northern Canada.

Searle told the Globe and Mail that the main owners are concerned that if they build a pipeline that is too big the shipping tolls will go too high.

However, Sproule estimates there could be 46 trillion cubic feet of undiscovered gas in the Delta and Beaufort Sea, without even venturing to the Arctic Islands. ●

Captains of Industry

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NORTH OF 60 MINING NEWS

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7 Recreational miners do it for fun, not profit

Mining as a hobby, with gold pan, shovel, sluice box or metal detector, can be lucrative business — for those who allow visitors

A special supplement to Petroleum News

AT THE CROW CREEK MINE NEAR GIRDWOOD, INEXPERIENCED RECREATIONAL MINERS CAN PURCHASE A POKE FULL OF DIRT AND GOLD AND PRACTICE PANNING WITH IT.

PHOTO BY SARAH HURST

WEEK OF
July 24, 2005

Petroleum
news

• BRITISH COLUMBIA

NovaGold's Galore Creek grows at a gallop

Camp has more than doubled in size, drill rigs are operating, environmental studies under way at potential B.C. open pit mine site

By SARAH HURST

Mining News Editor

One of British Columbia's largest advanced exploration projects has taken a leap forward this summer, with the camp at Galore Creek expanding from 75 people to 175 people. Vancouver-based NovaGold Resources, well-known in Alaska with its Donlin Creek and Rock Creek projects, now has seven core drillings rigs and two geotechnical rigs in operation at Galore Creek. The 74,000-acre property is located within the historic Sitkine Gold Belt of northwest British Columbia, about 90 miles east of Wrangell, Alaska.

"The program has gone exceptionally well, it's gone quite smoothly considering the transition to a larger camp and the large amount of activity going on," Carl Gagnier, NovaGold's general manager at Galore Creek, told Mining News. Gagnier joined NovaGold in January this year after 15 years with Placer Dome in Chile, Costa Rica, Venezuela and Canada. "This is a great group of professionals that I have a lot of confidence in," he said.

NovaGold plans to drill at least 50,000 meters this year on the porphyry-related gold-silver-copper deposit. Galore Creek is not quite as large as the Pebble deposit in southwest Alaska, but it is comparable in size to NovaGold's Donlin Creek project. According to an independent Preliminary Economic Assessment study completed by the engineering firm Hatch in August 2004, at a 30,000 tonne per day mining rate the project has potential for a mine life of more than 20 years and would produce an average of 270,000 ounces of gold, 1.8 million ounces of silver and 200 million pounds of copper per year over the first five years of operation.

Higher cutoff grades than Pebble

"We're reporting much higher cutoff grades than Pebble," Greg Johnson, NovaGold's vice president for corporate communications, told Mining News. Initial metallurgical testing has demonstrated recoveries in excess of 90 percent for copper, 70 percent for gold and 75 percent for



silver utilizing conventional metallurgical processes — crushing and flotation. That means a high-quality copper concentrate could be produced with the gold and silver in it, and it would be shipped abroad, probably to Asia, for processing. No cyanide or other chemicals would be used on-site.

NovaGold is employing as many local people as possible, directly and through its drilling, engineering and catering contractors. Galore Creek is in the traditional area of the Tahltan First Nation. The engineering firm at Galore Creek is a joint venture with the Tahltan, who are already involved with mining at the nearby Eskay Creek underground gold-silver mine, operated by Barrick. Eskay Creek has been one of British Columbia's biggest economic gener-

ators, but it is scheduled to shut down within the next few years. Almost 40 percent of the workforce at Eskay Creek is Tahltan.

No subsistence resources at Galore

Galore Creek, which would be an open pit mine if developed, is in a remote area with no subsistence resources, Johnson said. The Alaska Department of Natural Resources' Large Mine Permitting team has been invited by the Canadian government to participate in the process of looking at NovaGold's environmental baseline studies. There is a substantial commercial fishery at Wrangell. "We wanted to make sure they collected adequate data on water quality and fisheries," Ed Fogels, head of the Large Mine Permitting team, told Mining News.

"We got them to agree to set up a water quality monitoring site on the U.S. side of the border."

NovaGold spent around C\$4 million last year on environmental aspects of the project, and C\$12 million on the project overall, according to Johnson. This year the company expects to spend C\$40 million on Galore Creek. It hopes to complete a final feasibility study by mid-2006. The permitting process should begin in late 2005 and NovaGold hopes to start construction by late 2007 or early 2008. Construction of the mine and related infrastructure would take about three years.

Forty-mile road required

The logistical challenges at Galore Creek will be quite considerable. NovaGold plans to build a 40-mile road east to the Cassiar Highway and a concentrate pipeline that would follow the road. Concentrate would then be hauled by truck to the deepwater port of Stewart. To avoid having to build an even longer road, NovaGold envisions a tunnel through the mountains that would be just over a mile long. The mine will need 100 megawatts of power, and this would be achieved by extending the power line north to tie into the British Columbia hydroelectric power grid.

NovaGold is looking at Galore Creek valley as a tailings disposal site, where an earthen dam would be constructed out of the waste rock from the mine. "The ore is very clean, the deposit doesn't contain any arsenic or mercury," Johnson said. At closure the whole valley would be flooded, filling the open pits, keeping the waste from being exposed to oxygen — which could cause sulfide minerals to create acid — and creating a high alpine lake.

Investment in province up

British Columbia's new minister of state for mining, Bill Bennett, describes himself as a conservationist, but also believes that mining can develop responsibly. Bennett is a former lodge owner and keen hunter, angler and hiker. "We're as serious about our environment here as you are in Alaska," he told Mining News. "Galore Creek is one of the top prospects, there's no doubt about it. The mining industry feels more confident that there's a stable regulatory environment. There was a bias against mining in general by the former government and the mining industry knew that."

Investment in exploration in British Columbia has increased from C\$25 million in 2001 to C\$130 million in 2004, and is likely to reach C\$200 million this year or next year, according to Bennett. Reforms in the province that have benefited the mining industry include "one-stop shop" permitting, the removal of sales tax on the purchase of mining equipment and machinery, and a flow-through share program that makes investment in smaller companies more attractive, Bennett said.

Bennett's electoral district, or riding, as it is called in Canada, in southeastern British Columbia, is home to five coal mines and a number of other mining exploration projects. Teck Cominco's Sullivan lead-zinc mine in Kimberley, which operated for 92 years until its closure in 2001, was also located in the riding. As minister, Bennett's goal is to change the public perception about mining, he said. "Mining is the safest heavy industry in Canada. Mining has come a long, long way, and also in terms of its relationship with First Nations. The public perception lags behind those improvements." ●



• JUNE AU, ALASKA

Coeur gets down to business at Kensington

Environmental controls, tree-felling, construction already under way at gold project near Juneau after final permits received

By SARAH HURST

Mining News Editor

There was hardly time to pour the champagne before putting on the hard hats. Within days of receiving their final permit in late June, Coeur d'Alene was moving equipment to start work on construction of the Kensington gold mine near Juneau. The first task is to make sure the ecology is taken care of, according to Tim Arnold, Coeur Alaska's vice president and general manager of the project. Coeur is currently mobilizing all the clearing and grubbing equipment and installing silt fences for sediment control.

Next on the list is tree-felling and upgrading the existing road from the dock facility to the mill site area, Arnold told Mining News. The road to the tailings facility will also be worked on. "By the end of this construction season we will be in all areas, but it's a pretty compact site," Arnold said. The largest amount of work will occur at the mill site, where the majority of the earthwork will take place. Coeur will also build a temporary construction camp.

Alaska Interstate Construction, based in Anchorage, has the civil works contract, and is building the camp pad, mill site pad, and all connecting roads. Channel Construction of Juneau is the logger, and Native Alaskan-owned Kuukpik, another Anchorage company, is the camp provider and caterer for Kensington.

Underground work through winter

By September there will be 90 people

"I would say it's pretty typical of most projects — people object.

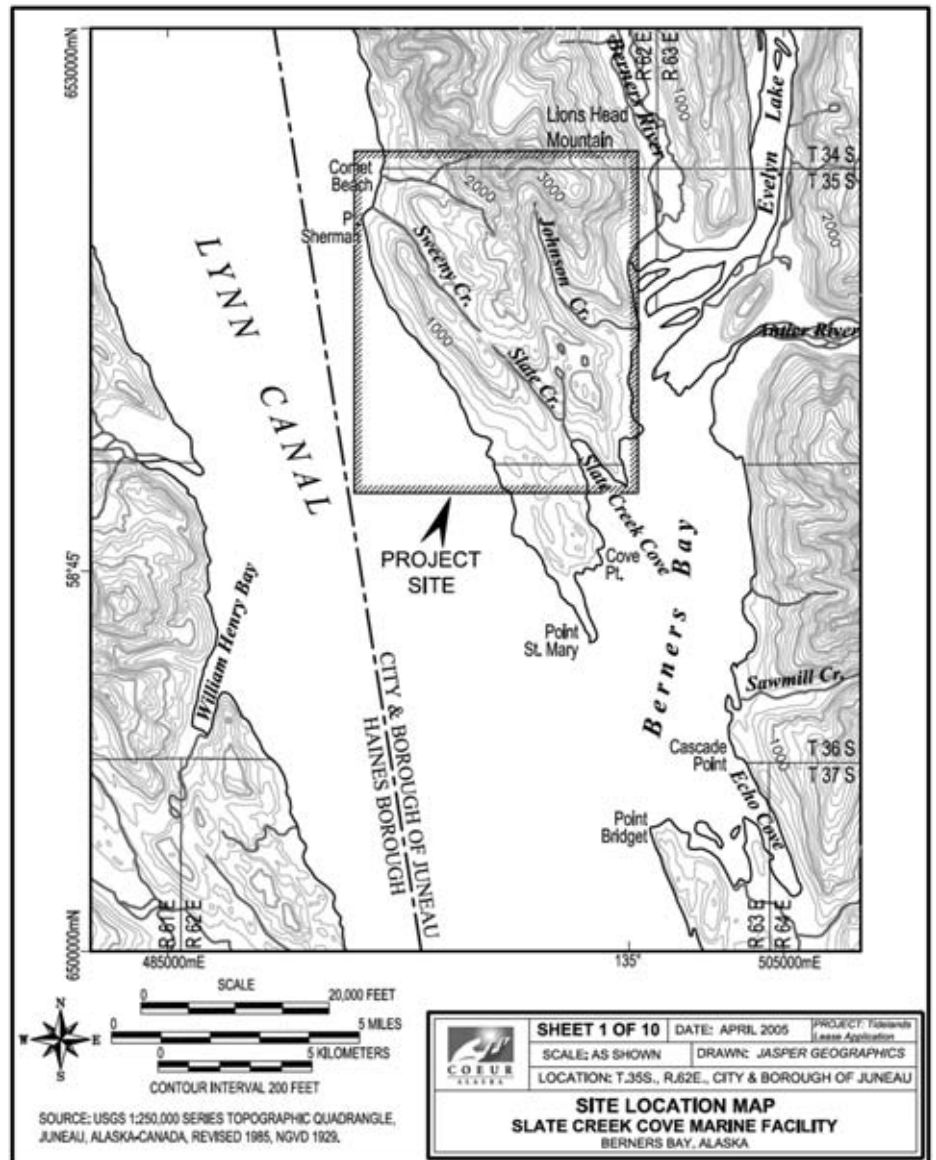
They have a concern for Berners Bay, so do we. Their questioning of what we do has spurred us to a lot of thought in the way we are going to do the mine. You put this much thought into a project; the project gets better and better."

—Tim Arnold, Coeur Alaska vice president and general manager

working on the project. "We'll probably have up to 100 before the heavy snows fly," Arnold said. Underground work will take place throughout the winter, and there will still be crews on the surface. Arnold himself has more than 25 years of experience in hard rock mining, and transferred to Juneau in spring 2004 from Coeur Rochester in Lovelock, Nev., where he was also vice president and general manager at the world's seventh-largest primary silver mine.

The permitting process for Kensington began back in 2000, and Coeur has received 33 major permits. "I think the state of Alaska has done an exceptional job of putting together the large mine permitting group, it's streamlined the process," Arnold said. Coeur has also gone to considerable lengths to meet the needs of local people. "We have gone through many public meetings and read thousands of letters. We have tried to figure out ways to accommodate the most significant issues," Arnold said.

see KENSINGTON page 4



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• OPINION

Reflections on ANILCA redux XXV

Celebration of 25 years of the Alaska National Interest Lands Conservation Act ignored the problems it caused for development

By J.P. TANGEN

For Mining News

COMMENTARY

In the waning days of his administration, then President Jimmy Carter passed through Anchorage en route to a meeting in Asia. His shocking and draconian use of the Antiquities Act to implement his vision of how Alaskans should be concentrated in isolated parcels surrounded by inaccessible, withdrawn lands had already been implemented. His execution of ANILCA was yet to be. Mr. Carter took a few minutes to meet with several business leaders during his brief stopover, and in the course of his comments observed that when he told his staff he was going to visit some of his friends in Alaska, he was told, "That won't take long."

Twenty-five years later little has changed. Despite the best efforts of the utopians to celebrate the passage of ANILCA, barely 1,000 people signed up to meet and greet the former president in July. Many of them hadn't been conceived when H.R. 39 was introduced.

As we approach this sad milestone, we can look back over the unending disruptions that Mr. Carter precipitated with the stroke of a pen on Dec. 2, 1980. Little needs to be said about the interminable pontification about exploring for oil in the coastal plain of the Arctic National Wildlife Refuge. If it is fair to compare the impact of the trans-Alaska oil pipeline to that of a piece of thread

drawn across a football field, it is fair to compare the impact of drilling in ANWR to a pinhole in that same field.

Likewise, the agony of inholders trying to access their property from Kantishna in Denali to McCarthy in the Wrangells has provided steady fodder for the local press. Conflicts over management of fish and game have been ruinous and have stirred poignant controversy when picturesque predators become prized pelts.

Progress painstaking

Even with an Alaska-friendly federal administration reaching out to the local community, progress has been painstaking. After two decades of running the National Parks as private fiefdoms, a timid effort has been made to standardize the rules relating to crossing park lands, but that effort has been paltry to date.

Miners working obviously navigable stream bottoms are still at risk of being confronted by upland Fish and Wildlife Service managers with little justification. Public Land Orders, temporarily put in place to facilitate the implementation of ANILCA, continue to burden the public record.

The Alaska Native Claims Settlement Act called for 80 million acres of land in Alaska to be set aside for additions to the four systems. By the time ANILCA became law, that 80 million acres had grown to over 100 million acres of land that was closed to resource development and created barriers against roads between rural communities. Alaskans are left with only a dream of a railroad from Teller to Tok or electric power from

Healy to Bethel.

Hordes of seasonal visitors

The irony before us is that passage of ANILCA has had immeasurable negative consequences for its proponents as well. The pristine "Crown Jewels" are now inundated with hordes of seasonal visitors who continuously traverse the environment and who leave behind a tickytack infrastructure that will blight pristine Alaska long after the last mine is reclaimed and seeded over.

Few seem to realize that resource development is a transient use of the land. Second growth forests make improved habitat. Capped oil wells soon become hard to locate. Revegetated tailings piles blend in nicely with the surrounding countryside.

Alaska is blessed with outstanding resources. Knowledgeable observers appreciate that exploitation of those resources with 21st-century methodology need leave little permanent imprint while contributing to the common wealth. ANILCA reflected a lack of sensitivity to this fundamental, and 25 years of experience has provided no evidence to the contrary. It is small wonder that Jimmy Carter, for all his humanitarian credits, has few fans in the Great Land. ●

J.P. Tangen has been licensed to practice law in Alaska since 1975 and is currently a sole practitioner specializing in mining law and public land issues. In 2000, he edited "d(2) Part 2, A Report to the People of Alaska on the Land Promises Made In ANILCA 20 Years Later."

continued from page 3

KENSINGTON

The Southeast Alaska Conservation Council's appeal against the Forest Service's Record of Decision approving Kensington was rejected in March this year. SEACC had alleged the mine plan violated the Endangered Species Act, Clean Water Act, National Environmental Policy Act, and the National Forest Management Act. "I don't think anyone's concerns were unjustified," Arnold said. "Coeur has done a pretty good job of trying to mitigate concerns — for example, about fueling vessels at Cascade Point. We will take them outside Berners Bay at certain times of the year and fuel them somewhere near Juneau." Adjustments to the plan go right down to shaded lighting and the size of the parking lot, Arnold added.

"I would say it's pretty typical of most projects — people object," Arnold said. "They have a concern for Berners Bay, so do we. Their questioning of what we do has spurred us to a lot of thought in the way we are going to do the mine. You put this much thought into a project; the project gets better and better."

Another issue raised by environmentalists was the use of Lower Slate Lake as the mine's tailings facility, chosen over the option of dry stack tailings. "The tailings facility that we have in the current plan is best economically and environmentally, and it reduces the amount of affected wetlands significantly," Arnold said. "We will take an unproductive, subalpine, brackish lake and improve the

fisheries. It will be a better habitat for the macroinvertebrates."

Coeur will construct a dam that will raise the water level in Lower Slate Lake by about 85 feet, increasing the size of the lake from about 20 to 56 acres, and flooding the majority of Mid-Lake Creek, the main inflow to Lower Slate Lake. The tailings will not be toxic. Coeur is a leader in environmental policy, Arnold said, pointing to the company's investment of more than \$110,000 at Rochester to rescue 110 Townsend's big-eared bats and find new homes for them. In recognition of that work, Bat Conservation International named Coeur Rochester its 2003 Corporate Conservationist of the Year.

When the Kensington mine is eventually reclaimed, after its estimated 10-year life, all the facilities will be removed, the portals will be sealed and the waste rock will be reclaimed. "It will be tough to tell that we were there," Arnold said. Safety is another of Coeur's top priorities at Kensington and elsewhere. Coeur Rochester won the Department of Labor's Mine Safety and Health Administration Sentinels of Safety Award in 2000, and the mine has also received the Nevada Mining Association's Safety Award six times.

Production at Kensington is scheduled to begin in late 2006. The mine is expected to produce 100,000 ounces of gold annually. Coeur is committed to a policy of local hire, but for those employees who are brought in from further afield, as Arnold was, Juneau is "a wonderful place to live," he said. "It's a little bit of paradise." ●

SOUTHCENTRAL ALASKA

Lucky Shot gold project drilling begins

Full Metal Minerals Ltd. has launched an eight-hole drilling program covering 1,200 meters at the Lucky Shot Gold Project, about 40 miles north of Anchorage. The program — the initial phase of exploration at Lucky Shot by the Vancouver, British Columbia-based company — will target an extension to the Coleman Vein at the Lucky Shot Mine. The mine is in the second largest historic lode-gold producing region in Alaska. From 1908 to 1951 Lucky Shot operated as one of the richest in Alaska, producing 252,000 ounces of gold at an average grade of 1.48 ounces per ton. Limited drilling by Enserch Oil and Gas in the mid-1980s intercepted gold values including 24.6 ounces per ton over 0.24 meters and 12.9 ounces per ton over 0.24 meters. At least 620,000 ounces of gold have been produced in the Lucky Shot/Independence Mine area, at historic grades ranging from 2.0 to 0.4 ounces per ton, according to unaudited estimates.

Full Metal also said it will target gold-bearing fault zones that are the structural controls to the vein-hosted gold mineralization. This style of gold mineralization is similar to bulk-tonnage gold mining operations in Northern China, the company added in a July 15 statement.

The core drilling and sampling program will be supervised by Robert McLeod, P.Geo. and vice president of exploration for Full Metal.

Full Metal currently has interests in 10 gold, copper-gold and uranium properties in Alaska and Nunavut, including the highly prospective Ganes Creek Gold, the South Pebble Copper/Gold and the 1.4-million-acre Aleutian Island Project.

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• ALASKA

Coal cash: coal-to-liquids being studied

Federal, state agencies pursue lucrative potential for converting Beluga's vast reserves into synthetic transportation, power fuels

By ROSE RAGSDALE

Mining News Contributing Writer

U.S. energy legislation currently working its way toward finalization in Congress provides \$200 million in aid for programs that develop ways to convert coal into synthetic fuels such as clean diesel, along with billions in loans and incentives to encourage environmentally friendly methods of burning coal to generate electricity.

A huge federal transportation bill still in the U.S. House also promises assistance for those seeking to convert coal into clean-burning transportation fuels.

These funds could spur existing programs and spark new initiatives in Alaska, which leads the nation in known reserves of low-rank, low-sulfur coal with an estimated 160 billion short tons of the soft, black rock.

Coal-to-fuels study in works

The U.S. Department of Energy is poised to examine the feasibility of making coal from the Beluga fields on the west side of Cook Inlet into synthetic fuels.

DOE is in the process of finalizing a study to see if it's possible to make coal from the Beluga fields into feedstock for the Agrium fertilizer plant in Nikiski, hydrogen for the Tesoro refinery to make low-sulfur diesel and power for the Pebble Mine project.

A coal-to-liquids project also could generate synthetic diesel for BP's gas-to-liquids plant in Nikiski and produce carbon dioxide to boost oil recovery in the aging Cook Inlet fields.

Though no specific dollar figures have been discussed, DOE has earmarked funds for coal research that could be used to finance the work.

DOE's interest in finding an economical way to tap the 1.4 billion tons of proven coal reserves in the Beluga fields stems from the energy industry's concern about the imminent energy crisis facing the Anchorage Bowl where natural gas supplies are rapidly being out-paced by growing demand.

While Alaska policymakers appear to be intently focused on developing North Slope gas reserves via a pipeline to the Lower 48 with a spur line to the Southcentral area, researchers at DOE's National Energy Technology Laboratory

worry that Anchorage's energy crisis may reach a critical stage three to six years before the North Slope gas line is complete.

Observers say Alaskans need to stop looking at sole sources to meet Southcentral Alaska's energy needs and start looking at a suite of sources. "What's needed is portfolio of resources so we're not overly dependent on one source of energy," they say.

Outside investor expresses interest

Though the vast coal supplies in the Beluga fields are considered inferior to other coal in Alaska because of their high moisture content, would-be marketers aren't deterred.

One private group is working with the Alaska Industrial Development and Export Authority to attract a major investor to build a multimillion-dollar conversion plant on the shores of Cook Inlet that would transform the Beluga reserves into diesel and naphtha.

Spokesman Richard J. Peterson said a group he is assisting is in the early stages of considering building a plant to convert the coal into synthetic fuels, including diesel and naphtha using the Fischer-Tropsch process.

"The technology is commercial, and the coal reserves are commercial," he said. "We're just trying to convince the players to come to Alaska to do the deal."

Peterson said the project could benefit from tax breaks in the energy bill because a portion of the coal would generate waste heat that could be used to make electricity, and carbon dioxide recaptured in the coal conversion process could be used in to enhance oil recovery in Cook Inlet's oil fields.

AIDEA Chairman Mike Barry said he cannot discuss his recent work with Peterson because he's bound by a confidentiality agreement, but the process of developing a coal-to-liquids plant is arduous. It will be four to five years before such a facility could begin production, he said.

AIDEA pursues coal-to-liquids project

AIDEA, meanwhile, is pursuing all avenues to develop a coal-to-liquids plant.

"The favorable thing about using coal for generating electricity and transportation fuels is the very high price of energy

DOE is in the process of finalizing a study to see if it's possible to make coal from the Beluga fields into feedstock for the Agrium fertilizer plant in Nikiski, hydrogen for the Tesoro refinery to make low-sulfur diesel and power for the Pebble Mine project.

right now," Barry said. "We have a dire need to look at diversifying fuel resources for electricity generation."

AIDEA is examining opportunities for the Beluga fields and Wishbone Hill in the near term and Northwest Arctic coal in the long term," he said. Beluga coal, alone, could generate in refined fuels the equivalent of more than 6 billion barrels of crude oil, by Barry's calculations, making it the second-largest fossil fuel source in North America.

Beluga coal is an attractive resource because it is located at tidewater and only

a few miles from Alaska's only electricity grid, Barry said. "It is ideal for feedstock for this kind of operation because it's not easily marketable. Because of its high carbon content, it's somewhat stranded in value," he said.

Beluga coal also has other attractions. "We can generate the cleanest transportation fuels on the planet; waste heat would produce very inexpensive electricity and we can capture carbon dioxide easily," Barry said. "When you put everything together, it's a big win for Alaska if we can achieve this," he said.

AIDEA is also aware of very encouraging aspects of the energy bill, and also a couple of provisions in the federal transportation bill that would advance a coal-to-liquids project, Barry said.

The transportation bill provisions would offer significant cost deductions to make coal diesel competitive as a transportation fuel, said Bill Popp, oil, gas and mining liaison for the Kenai Peninsula Borough. ●

PRINCE OF WALES ISLAND

Tri-Valley acquires Sealaska calcium mine

Tri-Valley Corp. said July 18 that its wholly owned subsidiary Select Resources Corp. has purchased the Admiral Calder Calcium Carbonate Mine and associated assets from Sealaska Corp. and SeaCal LLC.

Bakersfield, Calif.-based Tri-Valley said the calcium mine is on the northwestern coast of Prince of Wales Island. It was discovered around 1905 and mined from 1907-10 for high white and statuary grade marble.

Current mining operations began in 1999.

Tri-Valley said the mine has 13.9 million tons of drill-proven and probable reserves and 12.5 million tons of possible resources of high chemical grade calcium carbonate. Only 15 acres are being mined out of 572 acres of patented mining ground, and only about 10 percent of the property has been explored.

Harold Noyes, president of Select Resources said the mine "acquisition significantly adds to the portfolio of mineral projects Select is building in Alaska."

"The sale is the culmination of a several-year effort to sell the mine," said Chris McNeil, Sealaska president and CEO. He said "plans for the mine will benefit the economy of the Prince of Wales Island and create new jobs leading to further diversification of the island's economy."

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• FAIRBANKS, ALASKA

Gil advances: production decision by 2006

Kinross, Teryl move Gil to development; higher-grade gold ore in nearby property could extend production life of Fort Knox mill

By ROSE RAGSDALE

Mining News Contributing Writer

Kinross Gold and Teryl Resources are advancing their Gil Joint Venture Project from exploration to the development stage in hopes of identifying a viable source of new high-grade gold ore for production.

The joint venture plans to permit the deposit once sufficient baseline data has been collected. A \$793,800 budget has

been approved this year for permitting and engineering work. A full feasibility study is expected to be completed by the end of the year, and a production decision by Kinross, which holds an 80 percent interest in the Gil JV, is expected in 2006.

The Gil property is located 19 miles northeast of Fairbanks and a few miles east of Kinross' Fort Knox gold mine, where daily production currently exceeds 1,000 ounces of gold.

The Fort Knox mine is nearing the end of its life and has about five years of estimated reserves left to produce, and the nearby True North gold mine is closing. This means Kinross is keenly interested in identifying new sources of higher grade gold ore to feed the Fort Knox mill.

It bodes well for the Gil property, which has a main zone ranging up to 80 feet thick, trends over 2,500 feet and is open along strike and at depth. Several new high grade quartz vein targets recently have been identified on the property in the Intersection Area, east of the North Gil and northeast of the Main Gil and on Sourdough Ridge, east of the Main Gil. A gold deposit on West Ridge contains two gold zones with mineralization similar to that at Kinross' True North deposit.

Gil still mostly unexplored

Though only 10 percent explored, the Gil property, currently has a drill-indicated resource of 400,000 ounces of gold, according to John Robertson, president of Teryl Resources.

"Gil is considered to have higher-grade gold ore, which could be good for Kinross," Robertson said July 18. "With Fort Knox in the final phase of production and the fact that True North is being closed down, it's nice to have another source of higher grade gold ore nearby. The Gil property is only six miles from the Fort Knox mill."

Kinross officials could not be reached for comment.

This year Kinross will perform extensive engineering and airborne geophysical surveys to fill out the partners' database on the Gil property. The goal is to produce a more detailed structural and lithologic base map of the Fort Knox Trend. The survey may pinpoint drill targets on the Gil — and, if they are lucky, another 4 million ounce Fort Knox-type deposit, according to Robertson.

Permitting activities will consume most of Kinross' 2005 development budget. More than \$500,000 will be spent on the process of obtaining required permits including a plan of operations, solid waste disposal, storm water discharge, wetlands and plans for monitoring, reclamation and closure.

A cultural resource survey was com-

Since 1991 when Kinross joined the project, the partners have spent some \$10 million to define a resource on the Gil project. The resource of 400,000 drill-indicated ounces of gold (10 million tons grading 0.04 ounces gold per ton) is expected to grow upon completion of the feasibility study this year.

pleted last year and surface and ground water hydrology data, begun in 2000, is nearly complete. Once the U.S. Army Corps of Engineers completes a required environmental assessment, the permitting process can be completed.

Since 1991 when Kinross joined the project, the partners have spent some \$10 million to define a resource on the Gil project. The resource of 400,000 drill-indicated ounces of gold (10 million tons grading 0.04 ounces gold per ton) is expected to grow upon completion of the feasibility study this year.

New drilling planned for Gil, Fish Creek

In addition, the partners are planning to start drilling new zones in the Gil JV this summer as part of ongoing exploration, Robertson said. The companies expect to spend up to \$250,000 on the drilling work, depending on results, he said. "If we like the results we're getting, we'll spend more."

Exploration efforts have examined only a fraction of the Gil property so far.

An estimate of proven reserves for the Gil property hasn't been completed yet, said Robertson who declined to speculate about the total size of the Gil resource.

Teryl also plans to explore the Fish Creek property, which adjoins the Gil prospect, this season.

"We're going to start drilling there, and it has excellent targets as well," Robertson said.

Teryl has budgeted \$50,000 for the Fish Creek drilling. "We've got one big geophysical anomaly we want to test," he added.

The Fish Creek claims, in which Teryl owns 50 percent interest by option, contain a promising placer deposit and Fort Knox-type intrusive.●

FAIRBANKS, ALASKA

Anglo American Exploration turns up heat at MAN project

Anglo American Exploration (USA) Inc. completed phase 2 program of its exploration on Area 1 (Fish Lake-Dunite Hill Area) of the MAN Alaska property June 20, according to owner Nevada Star Resource Corp. A total of 7,330 feet of drilling was completed in eight holes. The MAN Alaska property is 164 miles southeast of Fairbanks and 248 miles northeast of Anchorage. Exploration by Nevada Star began in 1995 in this large area which is characterized by its extremely anomalous nickel, PGE, and gold concentrations. Exploration results to date indicate the property has the potential for a significant discovery of nickel, platinum-group elements, and gold metals.

Tentatively scheduled for August, Anglo American plans to further refine and identify new targets for winter-spring drilling in 2006, committing additional funding above its contract, Nevada Star said. The extended exploration will include surveys over selected target areas identified in previous exploration programs.

Fish Lake, Dunite Hill phase 2 focus

In phase 2, Anglo American sought to identify nickel sulphide mineralization through drill testing of selected priority geological, geochemical and geophysical targets. The focus of the program was the Fish Lake and Dunite Hill intrusions, which together comprise 150 square miles of the 271 square mile MAN Alaska project area. Assay results will be released after quality assurance and quality control confirmation by Anglo American.

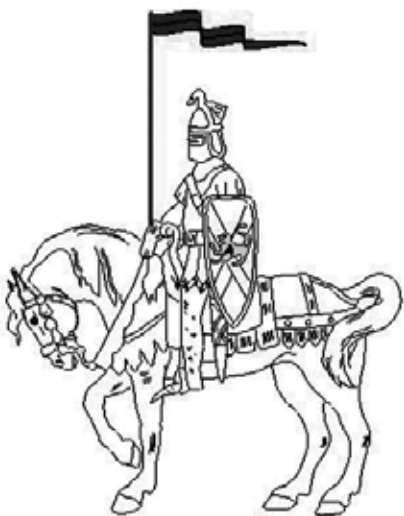
The MAN Alaska project consists of five distinct project areas: Canwell, Rainy/ Eureka, Summit Hill, Dunite Hill/Fish Lake and Broxson. Under the terms of its joint venture agreement with Nevada Star, Anglo American can earn a 51 percent interest in the southern portion of the MAN Alaska property by spending a total of \$12 million by 2008. Anglo America also has the right to increase its interest by an additional 19 percent by completing a positive feasibility study, at its expense, and an additional 5 percent by arranging production financing for Nevada Star and itself.

Nevada Star currently has projects in Alaska, Nevada and Utah.

Under the terms of its joint venture agreement with Nevada Star, Anglo American can earn a 51 percent interest in the southern portion of the MAN Alaska property by spending a total of \$12 million by 2008.

—MINING NEWS

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• ALASKA

Recreational miners do it for fun, not profit

Mining as a hobby, with gold pan, shovel, sluice box or metal detector, can be lucrative business — for those who allow visitors

By SARAH HURST
Mining News Editor

Anyone who owns mining claims — from grizzled old prospectors to multinational companies — struggles to make a profit. So one particular kind of prospect may be particularly attractive to them: having people pay for the privilege of mining on the claims, with the search itself often turning out to be more rewarding than the discovery of a tiny gold nugget or a pinch of fines. Recreational miners come in all shapes and sizes, and they're bringing new life to land that might otherwise have been abandoned.

To make the most of the growing interest in the sport of fishing for minerals, Steve Herschbach persuaded the Alaska Miners Association to establish a recreational mining committee, with himself as chairman. Herschbach is vice president of Anchorage-based Alaska Mining & Diving Supply, a business that caters to recreational miners that he has run for 28 years, and he is also a keen recreational miner himself.

"I know very intimately what that market is all about," Herschbach told Mining News. "I want to develop mining as a tourism and recreational opportunity in Alaska." The key is to generate revenues while not breaking any laws, he added. That means jumping through various bureaucratic hoops to get the proper permits. "A lot of people on mining claims can generate more money by bringing visitors than by actually mining. Fun and adventure is what they're looking for. For most of them, making money would not even be an expectation. They want to experience what the old-timers experienced, the thrill of finding gold."

Opportunity for family operators

A typical recreational miner might spend \$200 to find gold worth \$1, Herschbach said. But like slot machines and lottery tickets, there's always the tantalizing hope that you'll strike it big. Herschbach took a metal detector to longtime Alaska miner Doug Clark's claims at Ganes Creek, near McGrath, and found 14 ounces of gold nuggets in three days. Clark charges visitors \$2,500 a week for room, board and permission to search the tailings piles on his claims. By spring this

"Nobody thought people would look for gold for fun. There are a lot of questions legally that need to be worked out. What do we need to do to make it legitimate?"
—Steve Herschbach, Alaska Mining & Diving Supply

year he was already almost completely booked up for the season, accommodating more than 100 people. The largest nugget found on the claims so far was 122 ounces, and a 62.5-ounce nugget was found in the tailings pile.

"For small, family Alaska gold mining operators it's a real opportunity," Herschbach said. "I want to make Alaska the place where people come to look for gold." To create state recreational mining areas at Petersville, Little Susitna River and Caribou Creek, it was necessary to go through the Alaska Legislature. Chugach and Kenai Peninsula state parks are the only state parks that are presently open to recreational mining activity. To ensure that the mining really is recreational, each person is limited to one gold pan, one shovel and one sluice box three feet or less in length and up to 15 inches wide. In national parks and preserves, only surface sampling with a hand-held gold pan is permitted — no digging tools. Suction dredges may be used under certain conditions, again strictly regulated by size.

Gold panning in the Chugach

The Forest Service describes recreational mining in the Chugach National Forest as "gold panning," Herschbach

see RECREATION page 9



Gear for recreational mining should be light and portable, as Amber and Doug Brown from Nikiski, Alaska, demonstrate

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• GIRDWOOD, ALASKA

Gold on Anchorage's doorstep at Crow Creek

Mine was in operation from 1898 until WW II; old wooden buildings have been preserved by the Toohey family for nearly 40 years

By SARAH HURST

Mining News Editor

Part of the fun of recreational mining is being outdoors in a beautiful landscape. At Crow Creek mine near Girdwood, 38 miles south of Anchorage, the mountain backdrop is enhanced by the presence of wooden buildings and rusty pieces of equipment that have been preserved from the mining operation that began here in 1898. The Toohey family, who own the mine, have lived here for more than 30 years with no electricity, telephone or running water. From May to September they welcome recreational miners for a \$5 fee, or \$10 if you bring a metal detector.

There are 570 acres at Crow Creek for experienced recreational miners and total newcomers to try their luck. Jakob Loeffel, shoveling mud into buckets, came all the way from Switzerland. He found out about the mine on the Internet and decided to spend three months in Alaska, having previously visited the state 24 years ago. Recreational mining is his hobby in Switzerland. By contrast, Chris Hansell from Anchorage epitomizes the most casual of recreational miners, gold-panning in his sunglasses. "I just started five minutes ago," he said. "The guy at the booth showed me how to do it. It's pretty neat."

For beginners, Sean Toohey (the guy at the booth), supplies a plastic bag full of dirt and rocks with a little gold mixed in. They can practice by panning the dirt from the bag and comparing the gold with anything they find at the creek. Recreational miners can keep their gold but not the antiques they dig up, because this is a nation-



Antique tools could easily be found at Crow Creek, as miners used to throw them on the ground when they were no longer needed

al historic site. There are hundreds of small pieces of iron equipment on the claims. "If they didn't need it they just threw it over their back," Toohey said of the early 20th-century miners.

Family still mines commercially

In response to a question about how much gold is left on the property, Toohey was somewhat evasive. He and his family still mine commercially, using excavators and bulldozers. "Everyone wants to know how much gold you have," he said. "I fill a cereal bowl in a year. It's not 100 pounds, but it's more than five pounds." Gold

nuggets are collectors' items and can be sold on websites such as eBay, sometimes for twice or three times the \$427 per ounce current market rate for gold. The nuggets that recreational miners find here usually range from almond-sized to one ounce.

The type of mining that took place here before World War II has been outlawed since 1952 because it was so devastating to the environment. Miners sat astride water cannons known as hydraulic giants and blasted through 250 feet of glacially deposited gravel at up to 50,000 gallons a minute, creating a huge gorge. "If you left it going overnight there could be a hole the size of a gym," Toohey said. Between 15 and 30 miners worked here in arduous conditions. Rhubarb was imported to prevent scurvy. The only other available fruit, elderberries, were used to make wine. Alcohol and women were banned from the camp, but the Tooheys found a still in the woods about a mile away.

Bunkhouse restoration planned

A bunkhouse with up to 30 bunks burned down in the 1920s, and the Tooheys hope to restore it soon, after removing all the antiques from the site. So far they have found guns, eyeglasses and a set of false teeth. The buildings that are still standing include a blacksmith's shop (with tools on display), a meat cache and a panning shed. Toohey, his wife and two young daughters live in the mine owner's cabin, outside of which a Model T Ford is parked. Sean's sister, Kate, an artist, lives and

see CROW CREEK page 12

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A hydraulic monitor used high-pressure water to erode tailings at Crow Creek

continued from page 7

RECREATION

said, because they don't believe that mining can be recreational. "Our fear is that people will think gold panning is all it is. What recreational miners want is anything that doesn't require special permits: hand mining, gold pans, sluice boxes, suction dredges ... Any suction dredge with a six-inch nozzle opening or larger is automatically commercial mining in Alaska. We would like to get some agreement on those guidelines."

As part of his campaign to promote recreational mining in Alaska, Herschbach has set up a Recreational Mining Association and a website at www.recminer.com, with links to all the U.S. recreational mining sites he could find.

Interest in mining on public lands has languished, Herschbach said, and it needs to be marketed better. Every day people come into the Alaska Mining & Diving Supply store and ask Herschbach where they need to go to look for gold. "There's a lot more of them than real miners," he said. Permitting for recreational mining in Alaska is stuck in a muddy area between tourism and mining. "They've been making it up as they go at the state," Herschbach said. "Nobody thought people would look for gold for fun. There are a lot of questions legally that need to be worked out. What do we need to do to make it legitimate?"

Recreational Mining Association

The Gold Prospectors Association of America has more than 33,000 members. Since 1982 it has been organizing trips for its members to mining camps on the Cripple River near Nome. According to the association Web site, intrepid miners who sign up stay in cabins and subsist on clam chowder, beef stew, corned beef



Michelle Horner from Las Vegas, who used to live in Anchorage, likes to visit the Crow Creek mine near Girdwood whenever she can,

hash, pork and beans, tuna fish, pudding, apple sauce, pilot bread and peanut butter. "Alaska's got great potential because of our mystique and mining history," Herschbach said. "Surprisingly, a hotbed of this (recreational mining) right now is California. Washington and Oregon are doing everything they can to shut it down. You have to pan into a tub instead of in the creek."

As part of his campaign to promote recreational mining in Alaska, Herschbach has set up a Recreational Mining Association and a website at www.recminer.com, with links to all the U.S. recreational mining sites he could find. Alaska has the longest list. Besides selling all the equipment that recreational miners could possibly need, Alaska Mining & Diving also sells old mining records. "Areas that have produced gold for the past 100 years are still the best places today," Herschbach said. He should know: he has a safe deposit box stuffed full of gold nuggets.●



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• SKAGWAY, ALASKA

Cruise ships could share docks with coal

Canada's Cash Minerals in talks with AIDEA to export 1.2 million tonnes of Yukon coal per year from Skagway Ore Terminal

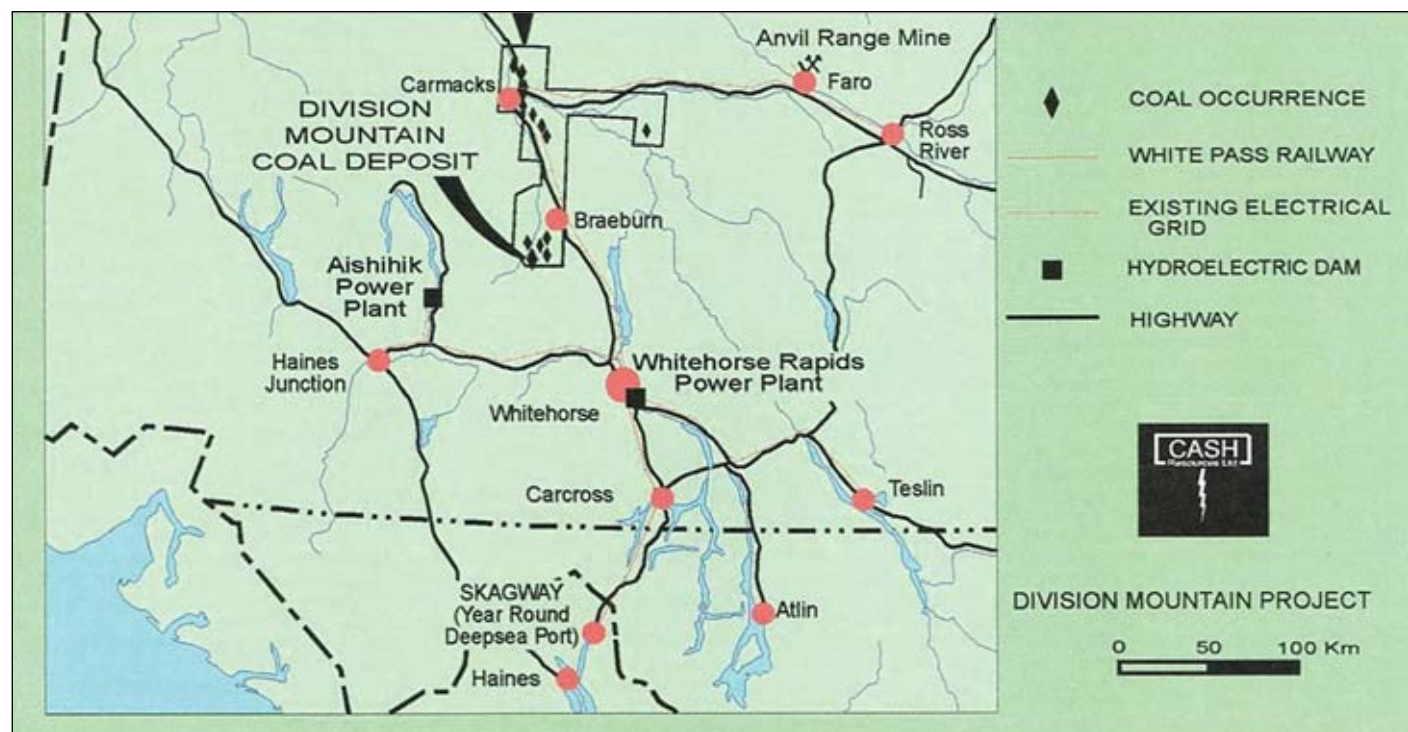
By SARAH HURST

Mining News Editor

An ambitious plan by Canadian junior Cash Minerals could bring 1.2 million tonnes of coal per year to Southeast Alaska's Skagway Ore Terminal for export to Pacific Rim markets. Cash has begun talks with the Alaska Industrial Development and Export Authority, the contractual owner of the ore terminal, about the logistics that would be involved in using the facility. The coal would be mined over a 20-year period at Cash's Division Mountain deposit in Yukon.

The Skagway Ore Terminal was constructed in the 1960s by the White Pass & Yukon Route Railway to store and ship concentrates from the now closed Faro lead and zinc mine in Yukon. There have been no shipments of concentrates through the terminal since 1997, due to low base metals prices. AIDEA purchased the ore terminal from White Pass in 1990 and performed environmental improvements, but White Pass still owns three docks at Skagway, including the ore dock, and there is a high volume of cruise ship traffic from May through September.

"It is feasible to load coal there, but you can only dock one boat at a time, either an ore ship — a bulkier — or a cruise ship," AIDEA Project Manager John Wood told Mining News. Loading coal takes several days, so there would be "scheduling challenges" during the tourist season, he added. That issue would be up to Cash and White Pass to



COURTESY CASH MINERALS

resolve between themselves. "The city of Skagway supports shipments through the Skagway Ore Terminal as well as tourism," Wood said. "There's a happy medium there someplace."

AIDEA pays a local contractor around \$30,000 a year to do maintenance at the Skagway Ore Terminal. The coal from Division Mountain would not directly compete with Alaska shipments, from Usibelli Coal Mine or the Beluga deposit in Southcentral Alaska, if that were ever developed, according to Wood. The Yukon coal is a much higher rank, bituminous coal, while the Alaska coal is sub-

bituminous. Power plants are built to burn one type of coal or the other, so the markets for the Canadian and Alaska coal would be different.

Skagway third-busiest cruise port

White Pass is optimistic that the scheduling challenges at the Skagway Ore Terminal can be resolved. "There's times when it's impractical and undesirable to be loading, but there's ways to do it. We're 'can do' people," Michael Brandt, the company's vice president for marketing and planning, told Mining News. On a typical weekday in July there

Like Cash Minerals with its Division Mountain coal project in Yukon, Redfern is hoping to use Alaska's Skagway Ore Terminal to ship concentrate to foreign markets.

may be four big ships docked at Skagway. During the five-month season there are usually 400-500 dockings, Monday through Thursday, Brandt said, and cruise traffic is expected to increase in the future. Skagway is Alaska's third-busiest cruise port after Juneau and Ketchikan. White Pass owns three deepwater docks, including the ore dock.

"The use of Skagway as a port facility is critical to a number of proposed mineral projects," Kevin Brewer, manager for mineral development with the Yukon government's Department of Energy, Mines and Resources, told Mining News. The Minto deposit and the Carmacks copper deposit are examples, he said. "We've been looking at this issue closely and we need to talk to Alaska a bit more. Our concern as a government is to ensure that all parties have sufficient port access," Brewer added.

Cash Minerals' new president and CEO, Basil Botha, believes that coal and uranium will be the answer to the world's energy needs in the future, as the search rages for alternatives to oil and gas. "The coal market is on fire and has been for a little while now," he told Mining News. "1.2 million tonnes is a drop in the bucket in the grand scheme of things." Botha took over at Cash Minerals in May this year, after the company changed its name from Cash Resources and brought in new management in January.

In addition to the Division Mountain project, Cash also has a right to earn an interest in six uranium projects in Yukon. A 2,800-meter drill program of approximately 24 holes is currently in progress on four of the uranium properties.

Infill drilling this summer

This summer Cash is conducting an infill drilling program at Division Mountain in an effort to upgrade some of its resources from inferred to measured. Out of Cash's estimate of 51.6 million tonnes of coal in the deposit, 13 million tonnes are in the inferred category. A

see **SKAGWAY** page 12

NORTH OF 60 MINING NEWS

AngloGold keen on Alaska
Major plans drilling, more land acquisitions

Pebble activity heats up
Claim staking continues around gold-copper deposit, fourth player announces land holdings

Israeli firm bids again
DGI Group gets light-hearted response from BHP Billiton regarding Ekati diamond mine

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• COLUMN

Mining news update from Curt Freeman: Alaska mineral industry cooks this summer

New companies, Tonogold Resources and bcMetals, acquire Alaska mineral properties; drilling rigs and helicopters booked for year

In case you have not heard, Alaska's mineral industry is cooking! Over the last month two new companies have acquired mineral properties in Alaska and most of the existing projects kicked off their summer programs in earnest. One of Alaska's major mining projects received its final permits to allow mine construction to begin and several others are conducting preliminary and final feasibility studies. Drilling rigs are scarce as hen's teeth and the helicopters to lift them and the people who run them are booked from now until Christmas (and beyond). One of the good things that the recent resurgence of the mining industry has brought Alaska is an influx of new geological talent, much of it young and well trained. Several of these new and talented people will be the next generation of Alaskan mineral experts. They are being seasoned in field camps all over the state by the current mining cognoscenti, a process that is repeated as each generation of new talent applies itself in Alaska.

Western Alaska

Alaska newcomer **TONOGOLD RESOURCES INC.** has signed an agreement with Calista Corp. on the Nyac gold project in southwestern Alaska. Terms of the agreement, covering approximately 57,600 acres of land, were not released. Historical production in the Nyac District totals more than 500,000 ounces of gold, virtually all of it from placer mining operations. Tonogold said it intends to conduct surface geochemical sampling and mapping starting in June in preparation for drilling in the 2006 season. Welcome to Alaska Tonogold!

NOVAGOLD RESOURCES said 2005 exploration and development work has commenced at the Rock Creek, Big Hurrah and Saddle properties in the Nome District. Drilling has begun at both Rock Creek and Big Hurrah. The Saddle target, located approximately 1 mile south of Rock Creek, will be drilled later this summer. Current plans call for more than 10,000 meters of total drilling including both reverse circulation and core at the three project areas. Drilling objectives include in-fill resource definition, geotechnical studies, condemnation and exploration to expand known resources. A major compilation and analysis of the company's extensive historical database has been initiated to further access additional exploration opportunities in and adjacent to NovaGold's large land holdings in the district.

NovaGold Resources said its Donlin Creek project JV partner **PLACER DOME** continues in-fill drilling with three drill rigs. The 20,000 meter 2005 program consists of in-fill drilling in the Acma deposit which is nearing completion with assay results pending. In-fill drilling in the Lewis deposit and other resource areas will continue through July.

ST ANDREW GOLDFIELDS LTD. announced additional results from its Nixon Fork gold project near McGrath. Underground drilling results from part of the 4,973 meters of underground drilling completed so far in 2005 included inter-

The author

The author Curt Freeman, CPG #6901, is a well-known geologist who lives in Fairbanks. He prepared this column June 30. Freeman can be reached by mail at P.O. Box 80268, Fairbanks, AK 99708. His work phone number at Avalon Development is (907) 457-5159 and his fax is (907) 455-8069. His email is avalon@alaska.net and his web site is www.avalonalaska.com.



CURT FREEMAN

vals ranging from 0.9 meters grading 9.6 grams gold per tonne to 1.3 meters grading 78 grams gold per tonne. Drilling has confirmed that the J5A target now extends from the 380 to the 200 meter level of the mine while the 2204 target extends from the 390 to the 240 meter level. Updated resources for the project were also released and include total measured resources of 23,400 tonnes grading 36.8 grams gold per tonne (27,700 ounces), indicated resources of 68,000 tonnes grading 33.2 grams gold per tonne (72,600 ounces) and inferred resources of 35,000 tonnes grading 27.7 grams gold per tonne (31,200 ounces). The company said permitting and engineering work continue with anticipated start-up of operation in late 2005 or early 2006.

LIBERTY STAR GOLD CORP. said field work has begun on its Big Chunk project near Iliamna. Field efforts will concentrate initially on the White Sox area discovered in 2004 and will expand to other parts of the property as the season continues. Work includes geochemical sampling and an estimated 150 line-kilometers of induced polarization ground geophysics. Diamond drilling began late in June, results are pending.

FULL METAL MINERALS LTD. announced that exploration work has begun on the Pebble South property and on the multiple copper-gold porphyry and epithermal gold-silver targets in the Aleutian Islands and Alaska Peninsula. At Pebble South, induced polarization ground geophysics and soil sampling will be conducted over the Boo and TYP prospects. At Boo, two 1.2 kilometer long zones of high chargeability coupled with moderate to low resistivity were identified beneath up to 100 meters of glacial cover. The prospect lies along the extension of **NORTHERN DYNASTY'S** southwest-trending IP anomalies (which includes the Pebble deposit). At the TYP prospect 13 kilometers north of Boo, a 0.6 kilometer long zone of moderately-high chargeability was identified in 2004 along with anomalous gold, copper and molybdenum in soils. Work performed during 2005 will refine these targets for drill testing.

Eastern Interior

SILVERADO GOLD MINES said preliminary feasibility work is under way on three mineralized prospects on its Ester Dome gold project in the Fairbanks district. Evaluations are being

Drilling rigs are scarce as hen's teeth and the helicopters to lift them and the people who run them are booked from now until Christmas (and beyond). One of the good things that the recent resurgence of the mining industry has brought Alaska is an influx of new geological talent, much of it young and well trained.

conducted on the Ethyl Elmes, Grant (O'Dea) and St. Paul prospects where previous work was conducted by the company in previous years.

Alaska Range

CANACO RESOURCES INC. said exploration has begun at its Hajdukovich gold prospect in the northern Alaska Range. The 2005 exploration program will consist of reconnaissance geological and geochemical evaluations followed by diamond drilling that will include nine drill holes totaling approximately 1,500 meters. The principal target, the Sneaker zone, is defined by several occurrences of visible gold in sheeted, northeast-trending, low-sulfide gold-bismuth quartz veins over a minimum 600-metre-by-900-metre area within a five kilometer long alteration trend. The

company also announced that it had staked an additional 40 contiguous claims covering a combined area of 20.5 square kilometers (5,080 acres) adjacent to the original Hajdukovich project. The newly acquired claims cover two documented gold showings which will be investigated during the summer. The new claims bring the total area of the Hajdukovich property to 44 square kilometers (10,880 acres).

Alaska newcomer **BCMETALS CORP.** has acquired an option to earn 100 percent of the Johnson project in the central Alaska Range. Terms of the agreement require bcMetals to acquire 1,333,333 shares of **ALASKA RANGE MINERALS**, a private company that controls the project, pay \$825,000 over five years to the claim holder (\$75,000 within the first year), incur \$13.5 million in expenditures by mid-2010 (\$500,000 in the first year) or complete a feasibility study, and issue 4 million Alaska Range Minerals shares prior to commercial production (1 million shares in the first year).

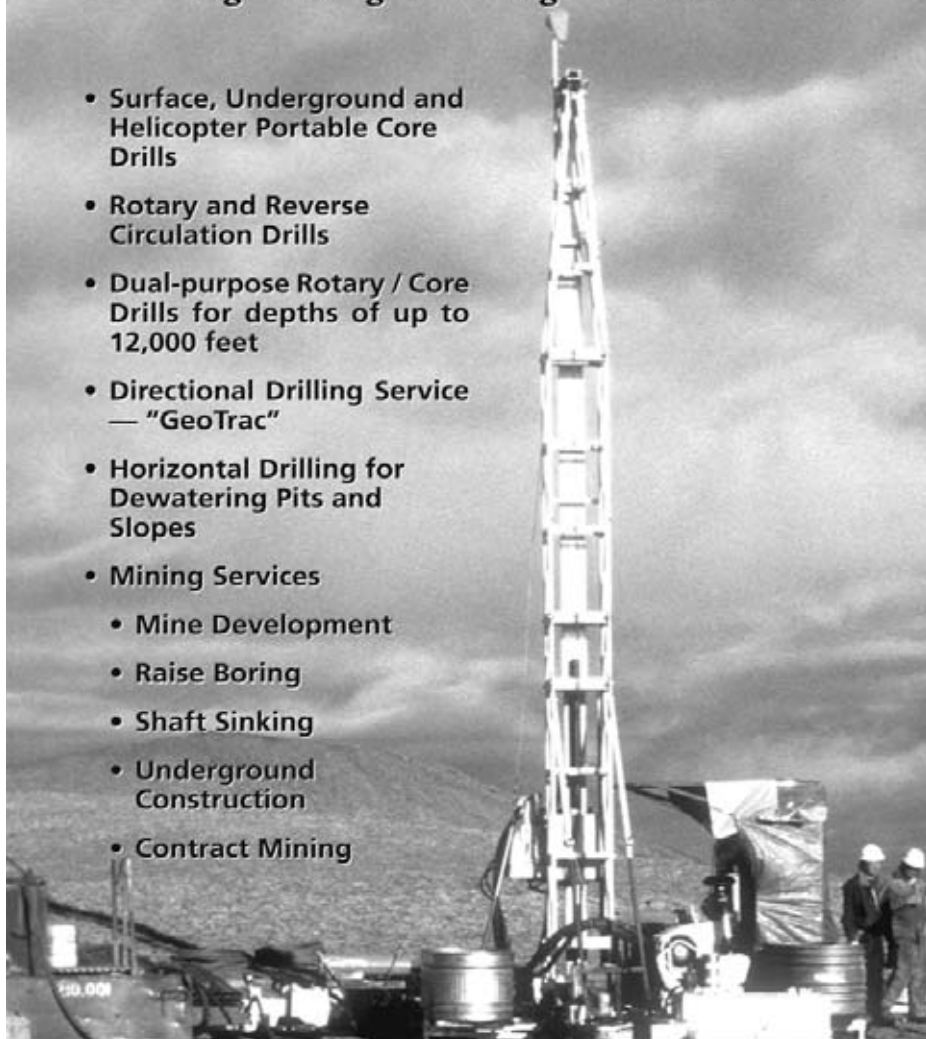
The Johnson project consists of 5,680 acres of state mining claims adjacent to the Richardson Highway. Known mineralization includes copper-nickel-platinum group element mineralization, copper mineralization and gold-silver-lead-

see **FREEMAN** page 13

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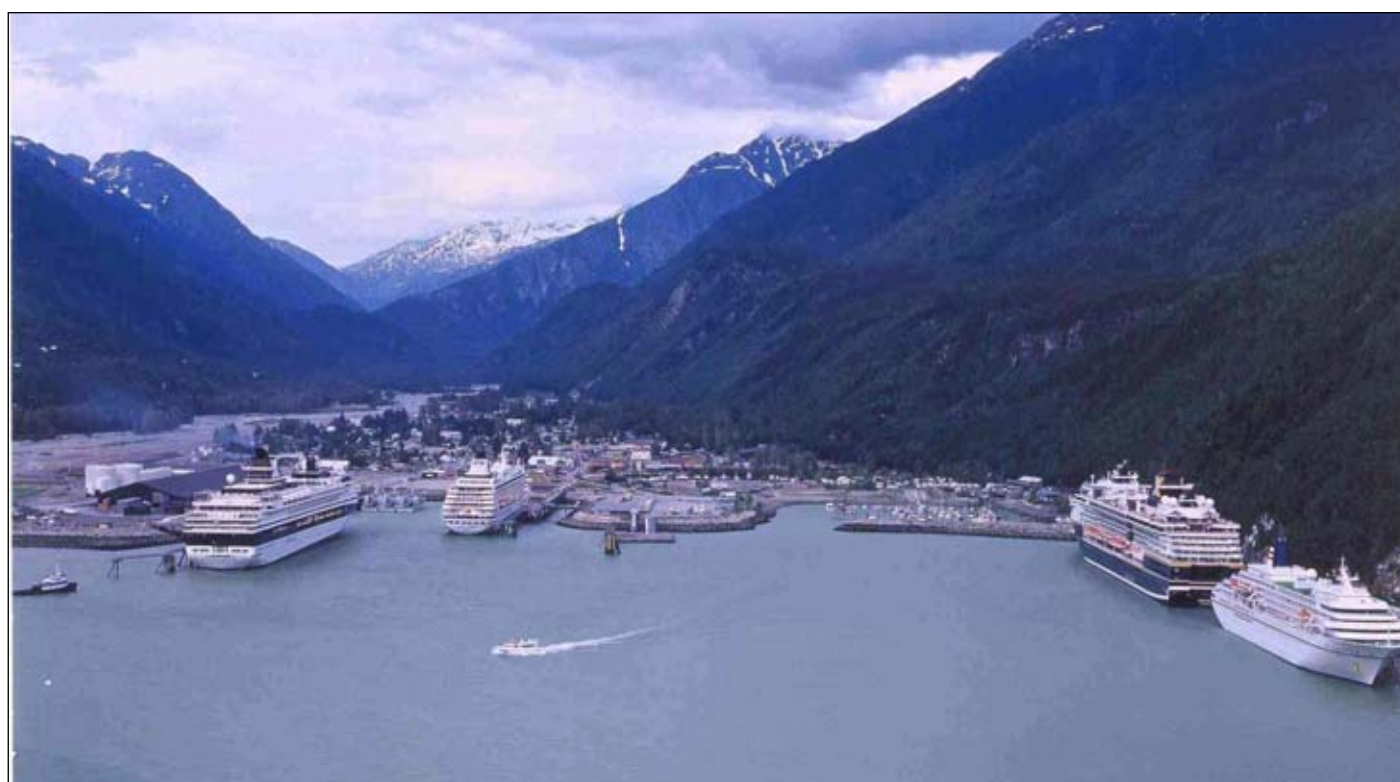
SKAGWAY

scoping study completed in April by mining consultancy Norwest supported the potential for economic development of an open pit mine based on the annual production of around 1.4 million tonnes of saleable coal. Of this, 175,000 tonnes per year could be used to fuel a 40 MW mine-mouth power plant.

The capital cost for the proposed mine would be around C\$30-\$35 million, Botha said. Botha emigrated to Canada in 1994 from South Africa, where he was responsible for the development of three operational coal mines supplying 3.2 million tonnes of coal per year to Sasol Secunda, the largest gasification fuel from coal producer in the world. "In Yukon nothing's happened in the mining industry for 20 years," Botha said. "There's a lost generation that has no idea what it does for the country and the world."

Cash has been working to create public awareness about the Division Mountain Project, including keeping First Nations groups informed. Division Mountain, which is "more like a large hill," according to Botha, is located 90 kilometers north-northwest of Whitehorse on federal land, although Champagne and Aishihik First Nations land borders the property. Cash announced July 14 that it had concluded a Letter of Understanding with Champagne and Aishihik.

"Champagne and Aishihik First Nations are interested in assessing the potential of our land for mineral opportunities," Chief James Allen said. "We wish to maximize the economic benefits for our citizens through employment, train-



Skagway is Alaska's third-busiest cruise port, but it may have to make room for ore shipments.

ing, contracting and direct participation in business opportunities which may arise from the Division Mountain coal project."

By truck to Skagway

The coal from Division Mountain would be hauled by truck via Whitehorse to Skagway, the route that Faro mine used. The board of AIDEA is due to meet July 25 to give the go-ahead for a cost reimbursement plan and scoping study for the Skagway Ore Terminal. Cash will pay AIDEA \$50,000 for the study, but if the project goes ahead, AIDEA will reimburse the mining company, Botha said. The Yukon mine permitting process must

The coal from Division Mountain would be hauled by truck via Whitehorse to Skagway, the route that Faro mine used. The board of AIDEA is due to meet July 25 to give the go-ahead for a cost reimbursement plan and scoping study for the Skagway Ore Terminal.

also be completed, but Botha hopes that production will start at Division Mountain by late 2007. "A lot of work was done already in the mid-1990s, for example by Usibelli," Botha said. "We're not starting from grassroots — we're

halfway up the tree already."

Alan Renshaw, Usibelli's chief engineer, confirmed that the Division Mountain is very large. Renshaw participated in Usibelli's exploration of the property in the 1990s, when the Alaska coal mining company took an option out from Cash Resources. "We spent a month or so drilling it out, running the economics," Renshaw told Mining News. "The problem we saw was that it would have been awful hard to turn a profit with that high of a transportation cost With the price of coal being higher now, maybe it would make more sense. It's a fantastic property, there's no doubt the coal's there. We decided to pass on it, but it was a tough decision for us."●



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COURTESY ALASKA PETOGRAPHY



SARAH HURST

Sean Toohey and his family own Crow Creek mine, and live there without electricity in all weather.

continued from page 8

CROW CREEK

works in another cabin on the property. His brother Cam lives in Anchorage and oversees the Department of the Interior's Alaska operations.

Large-scale commercial mining ended at Crow Creek when World War II broke out and the miners and equipment were transferred to the war effort. After the war, the price of labor tripled but the price of gold stayed the same, so reopening the mine would have been uneconomical. Its Norwegian owner, Arne Erickson, who had been a manager at the mine, lived opposite the Tooheys on L Street in downtown Anchorage. Erickson

asked Sean's father, Barney, if he would like to look after a place in Girdwood. Barney turned down the offer a few times before actually going to see Crow Creek and falling in love with the buildings.

When his health failed, Erickson sold the mine to Barney Toohey. At first the Tooheys didn't live there permanently, but in 1972 they went down in the middle of winter and found that people were loading antiques onto sleighs. "The only way to protect the mine was to live here," Sean Toohey said. "We spent 20 years restoring the buildings and cleaning the place up ... We used to ski three miles to the bus stop every day. Then our father bought us a snow machine and that changed our life."●

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continued from page 11

FREEMAN

zinc mineralization. At the Verona Pick prospect massive sulfides have been discovered with values ranging up to 21.8 percent zinc, 5.62 percent lead, 32.3 grams per tonne silver and 4.97 grams per tonne gold. At the Woody prospect massive sulfide samples have returned up to 5.7 percent copper, 7.01 percent zinc, 1.3 percent lead, 96.9 grams per tonne silver and 5.58 grams per tonne gold. Mineralized float in glacial moraine in the intervening approximately 1,000 meter between Woody and Verona Pick is reported, suggesting possible continuity. Copper, nickel and platinum group element mineralization occurs in outcrops at the Emerick and Forbes prospects.

These two prospects, approximately 1,500 meters apart on a northwest strike, have returned values up to 6.3 percent nickel, 2.2 percent copper, 0.22 percent cobalt, 1.17 grams per tonne platinum, 2.28 grams per tonne palladium (Emerick) and up to 5.4 percent nickel, 4.13 percent copper, 0.11 percent cobalt, 1.1 grams per tonne platinum, 1.0 grams per tonne palladium (Forbes). Copper mineralization at the Red Knob and Plateau prospects consists of vein structures carrying high grade copper mineralization (to 11.9 percent) which cut andesite containing pyrite and minor chalcopyrite.

At the BLM prospect, discovered by the U.S. BUREAU OF LAND MANAGEMENT during their recent Delta River Mining District study, one high copper value in a selected grab sample returned 17.5 percent copper. Geologic mapping and geochemical sampling are on-going with drilling slated to begin in early July. Welcome to Alaska bcMetals Corp.!

Northern Alaska

NOVAGOLD RESOURCES is mobilizing crews to the Ambler and Khotol projects in northwestern Alaska. Current plans are to drill more than 4,000 meters (13,000 feet) between the projects. At Ambler, up to 3,000 meters of core drilling will be directed at expansion of existing massive sulfide resources. The objective of this program will be to develop an integrated geologic model including grade distribution and zonation, mineralogy, alteration, specific gravity, metallurgy and rock characterization. Based on the updated model, a new resource estimate is planned which will form the basis of an initial scoping

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level economic study of the project scheduled for 2006. At the Khotol project, initial exploration has targeted a series of coincident multi-kilometer scale geophysical and soil geochemical anomalies in areas with only limited historic exploration work. The target is massive to disseminated precious metal rich poly-metallic replacement mineralization.

SILVERADO GOLD MINES

announced that drilling within a section of upper Nolan Creek, near its confluence with Fay Creek, has revealed a significant concentration of placer gold. The concentration of gold is associated with alluvial outwash where Fay Creek enters Nolan Creek. The company has recovered 1,320 ounces of placer gold from past mining along Fay Creek. Past drilling of this area indicated the presence of a drill indicated mineral resource of 2,081 ounces of placer gold. Cost analysis studies are underway to determine the feasibility of open cut excavation of the deposit during the winter months while the ground is frozen followed by stockpiling the gravel for processing during the summer months.

Southeastern Alaska

COEUR D'ALENE MINES announced that it had received all of the remaining federal mine permits that it requires to build and operate its Kensington gold mine project near Juneau. Receipt of these permits from the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency clears the way for start-up of project construction. The company indicated that initial construction activities would begin in July. Congratulations Coeur d'Alene Mines!

Joint venture partners PACIFIC NORTH WEST CAPITAL, FREEGOLD VENTURES and LONMIN PLC. announced approval and start-up of a \$1.1 million drilling program on their Union Bay platinum group element project north of Ketchikan. The 10,000 foot drilling program is targeting geochemical and airborne magnetic and electromagnetic targets defined in the 2004 field program. Results are pending.●

BRITISH COLUMBIA

Gold prospector kept fossil a secret

A reclusive prospector panning for gold in the Quesnel River in British Columbia found something far more rare, the fossilized cannon bone of a deer, and kept it a secret for years, experts say. The artifact found by Ben Miller, a fossilized support bone from the shank, is jet black and hard as a hammer, said Norm Canuel, a local archaeologist who has been on digs from Peru to Alaska.

"It is rare to find anything like that," Canuel said. "Once I found the fossil of a shrimp in the Nechako (a valley in far northern British Columbia) that had the same black look, almost like a black diamond and really hard. They looked identical in terms of color and texture. It is not a common find for around here."

Canuel said that without carbon it would be impossible to pinpoint the age of the bone but added that it would have taken at least hundreds of years to fossilize like that.

The blackness may reflect a buildup of manganese, Canuel said, adding that he wishes Miller could remember where he found the bone in case other fossils also are in the area.

Bone now in museum

After keeping his discovery to himself for an unknown number of years, Miller recently confided in Jack Boudreau, a local history writer who suggested he take steps to assure the preservation of the fossil.

"He was guarding it with his life," Boudreau said. "We convinced him that if anything happened to him, someone might not realize what it was, just think it was a stick or something and throw it in the garbage."

On the prospector's behalf, Boudreau contacted the Quesnel and District Museum and arranged for the bone to have a permanent and protected home, along with a photograph and write-up on Miller.

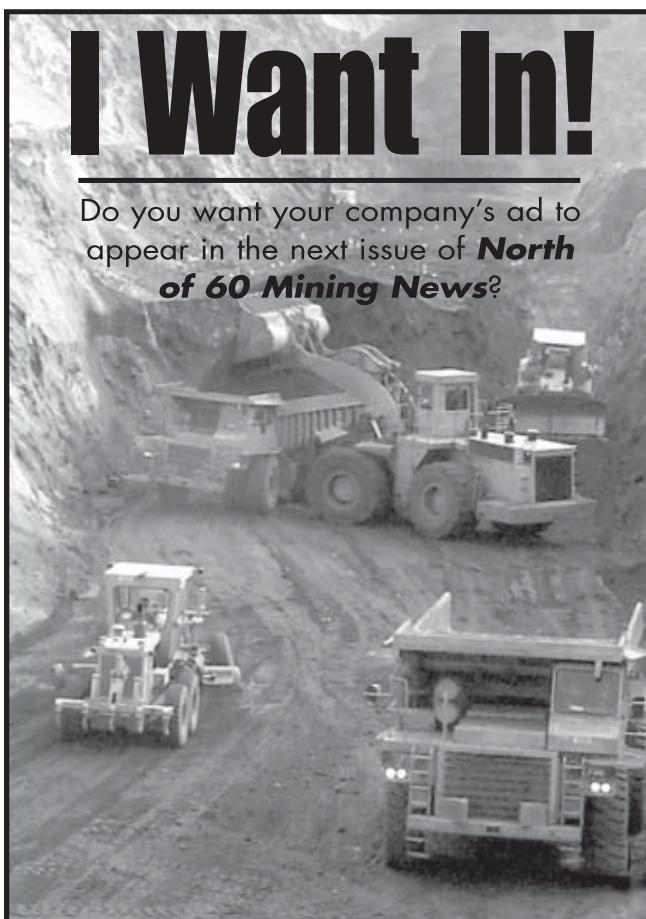
Boudreau says the prospector is thrilled.

"He found a real gold nugget that day," Boudreau said. "I've seen a lot of things come out of the ground in my years, but in my lifetime I've never seen anything like this."

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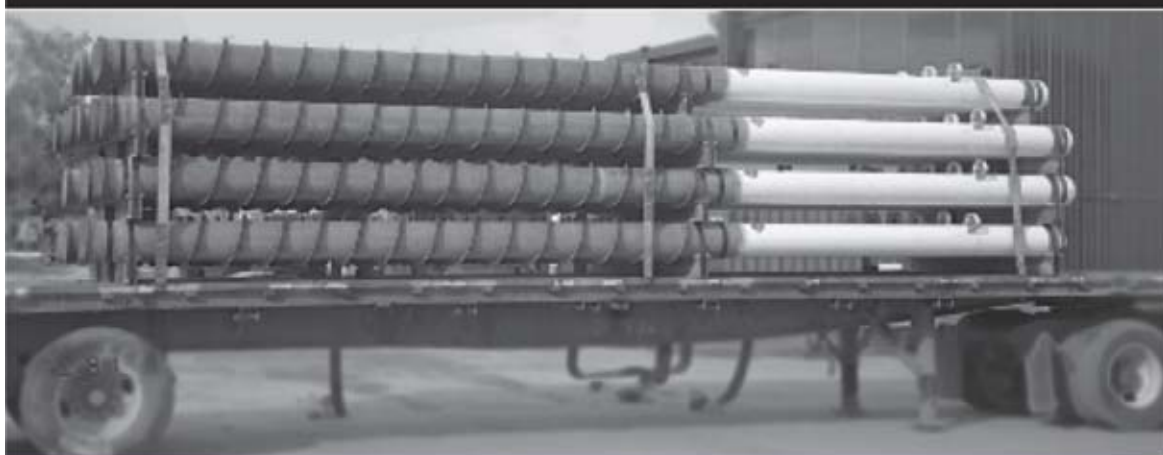


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• BRITISH COLUMBIA

Tulsequah Chief mine's future is borderline

Redfern Resources has installed treatment system for acid mine drainage; mine development plans on hold due to economic difficulties

By SARAH HURST

Mining News Editor

Environmentalists and indigenous groups have long been calling for a clean-up of the acid mine drainage at the former Tulsequah Chief zinc-copper-silver-gold mine in British Columbia, just across the border from Juneau. Vancouver-based Redfern Resources wants to do a full clean-up of the site, but only if it can reopen the mine. So mine critics find themselves in the dilemma of opposing the very process that could solve some of the environmental troubles.

The mine has been polluting the Taku and Tulsequah rivers with acid mine drainage since it closed in 1957. Redfern installed a passive treatment system in the mine's lowest-elevation tunnel at the end of June, which is intended to remove up to 90 percent of the toxic metals leaching out of the mine. The company has spent just over C\$500,000 on the system this year, according to Terry Chandler, Redfern's president.

The treatment comprises a sulfate-reducing bacterial system and the use of locally obtained limestone as a sustained alkalinity system to raise the pH of the water, Chandler said. As there is no road access to the mine or infrastructure, such as power supply, it is not possible to use more sophisticated methods that would be more effective. Ideally Redfern would like to build a high-density lime treatment plant at the mine.

"The mine plan calls for a road, water treatment and progressive reclamation, to negate the problem completely," Chandler told Mining News. "There is copper, lead and a little bit of silver. The zinc is problematic, because it requires a very high pH adjustment." It will be six to eight months before the biological activity from the treatment system starts to impact on the zinc, he added.

The old Tulsequah Chief mine site is on the steep slope of a mountainside and most of the water in the Tulsequah River originates from the Tulsequah Glacier. Regular floods cause the river's flow rate to double or triple and the water level at the mine site rises by six feet. "The river system goes through a complete reworking," Chandler said. "In the areas that currently receive untreated discharge, there is some impact, noticeable metal contamination."

Concern over salmon

Canadian and Alaska environmentalists in the Transboundary Watershed Alliance are concerned that developing the mine could harm the wild salmon in the watershed. The Taku River Tlingit First Nation launched a legal challenge to the mine and road proposal in 1997, but after succeeding in British Columbia courts, the Supreme Court of Canada ruled in November 2004 that the province's officials had consulted adequately with the Tlingits about the potential impact on the fishery and their unresolved land claim. "In reality we have great support from the membership of the band, but the leadership has accepted recommendations from NGOs to oppose the project," Chandler said.

As the Tulsequah Chief mine is so close to Alaska, the state's Department of Natural Resources has been working on

the project with the British Columbia government, according to Ed Fogels, head of Alaska DNR's Large Mine Permitting team. "Commercial fishing groups in Southeast Alaska are very concerned," Fogels told Mining News. "We want the mine to be developed consistent with U.S. and Alaska standards. The Canadians are keeping us involved and addressing our comments."

Full clean-up dependent on development

Fogels agrees with Redfern that a full clean-up depends on developing the mine. "We think the Tulsequah mine can be responsibly developed," he said. "The fish are doing great, the runs are increasing. It's not that big of an environmental issue. The passive system will probably make it a lot better than it is now."

The mine plan includes construction of a 100-mile access road from Atlin to the mine. "The biggest concern is that the road will bring a whole bunch more development to their territory that they won't be in a position to control," Chandler said. "But no one can do that without a significant amount of consultation with the First Nation." Like Cash Minerals with its Division Mountain coal project in Yukon, Redfern is hoping to use Alaska's Skagway Ore Terminal to ship concentrate to foreign markets.

The new mine would be built down below the river level, and would be sealed and flooded on closure, after an estimated eight to nine-year life. Power to the mine would be diesel-generated. Redfern argues that the mine will create high-paying jobs for local people near Atlin. But the Tulsequah Chief project faces economic difficulties. An updated feasibility study showed high construction and operating costs and a reduced mineral resource estimate, causing the company to put its plans on hold in May this year. "We need to get back in there and define some additional resources," Chandler said. The project is also awaiting approval from the Canadian government. ●



Environmentalists and indigenous groups have long been calling for a clean-up of the acid mine drainage at the former Tulsequah Chief zinc-copper-silver-gold mine in British Columbia, just across the border from Juneau. Vancouver-based Redfern Resources wants to do a full clean-up of the site, but only if it can reopen the mine.



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